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ORIGINAL ARTICLES.

POPULAR FALLACIES REGARDING ATHLETES AND ATHLETICS.

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OF WASHINGTON, D. C.

As a branch of medicine that has for its object the bringing of man to a greater state of physical perfection, the question of athletics has for the more advanced and liberal minded of our profession the highest interest.

In our parliamentary city where so many persons suffer from the effect of sedentary life, the athletic remedy seems to be the only sensible one, and it is daily becoming more apparent that a growing demand for athletics exists among the bright young men of the civil service who are fast replacing the sick, the infirm, and the political paretics that formerly filled the government departments. It is, therefore, with much gratification that we can point to the organizations of the Columbia Athletic Club of 450 members, and note the very favorable auspices under which it takes departure, owing to the liberality of a wealthy citizen, Mr. John McLean, formerly of Cincinnati.

The War Department, too, shows increased concern in the somatic efficiency of the material composing the Army. Dr. Greenleaf, of the Surgeon-General's office, has lately interested himself in the study of Dr. Sargent's anthropometric system with a view to its general introduction into the service. Any measure that will raise the physical standard in our little army is, of course, worthy of the highest praise. Even West Point men are physically far below the popular conception. A large proportion of them cannot swim, and generally speaking, the educational means of elevating the physical powers are not at the Military Academy what they should be. Acute indigestion and affections of the alimentary canal are more common than is generally supposed among the cadets, and inability to support a little fatigue and atmospheric vicissitude, such as that encountered at the inauguration of General Grant in March, 1873, does not give a very favorable exhibit, judging from the sick reports of that month, which shows a total of 195, while a larger number of artillerymen, nearly all of whom got wet the night before the inauguration, shows but thirty-three sick. The proportion of sick among the naval cadets, also present, was notably less—a circumstance that speaks well for the reorganization of Admiral Porter, who, by the way, has correct and enthusiastic notions in regard to physical culture, which have been introduced at the Academy. To any one witnessing the parade on the forementioned occasion the fresh, ruddy appearance of the midshipmen was in striking contrast to that of the cadets. A few years since at the Artillery school at Fort Monroe, of fifty-three officers, mostly young graduates, only eight could swim, and but three well; three more knew a little about boxing, and two could put up the dumb bell of sixty pounds—facts that go to show that military drill alone is a poor means to attain the athletic habit of body so becoming to a soldier.

Aside from military considerations, it may be laid down as an axiom, that in order to have a strong nation the palestric element must enter. Many popular fallacies concerning athletes and athletics still prevail to a great extent, not only in the general community, but among medical men, and this mainly for the reason that heretofore most of the published opinions relatively thereto have emanated either from athletes who knew nothing of medicine, or from physicians who were not athletes. In these days when errors are being dispelled and the mists of prehistoric times are finally rolling away, a thoughtful man is often astonished at the persistency of many popular fallacies, which, as a matter of fact, are no better than the groundless superstitions about Friday, thirteen at table, or the alleged coincidence of the red-headed girl and the grey horse—all of which exemplifications may be classed in the same category of sophistical reasoning with much that has been written and accepted respecting athletics.

Physicians are often accused of their deficiencies in the science of logic, and in many instances very justly so, but I am not at all prepared to believe that as a class they are any more deficient in this respect than other people. Without attempting to take up their cause, I will admit that the records of medical literature are

filled with rubbish, and that medicine continues to deserve the designation of an art rather than that of a science, mainly for the reason that some medical men will rush into print with no suggestion as to the insufficiency of the evidence adduced in order to establish a new truth. This gives rise to that common and most fatal of all errors, a post-hoc conclusion. If I were writing a book on errors in reasoning, and wanted to exemplify false ratiocination or deduction, I do not know of a more prolific source than that of sciolistic medicine, from which I might borrow pathological illustrations so to speak.

I might also quote various authors who, in regard to physical exercises, have carried their invectives so far as to have substituted prejudice for reason, and have generalized from insufficient observation.

Mr. Wilkie Collins' attempt to bring athletics into disrepute in "Man and Wife" is but a vulgarization of the professional opinion held and promulgated by many physicians; and it needs but a superficial acquaintance with current medical literature, to find the most unqualified condemnation of athletics, and the warnings against their evil consequences.

One writer says they cause hernia and aneurism, another heart disease, while a third asserts that athletes soon grow stale and are short lived. These, with many other alleged hurtful consequences have been put forward with all the pretension of spectacled gravity to give them currency. It is easy to understand from what point of view Mr. Collins regards athletics. Being a small, round shouldered man, with a shambling gait, it is not surprising that his connotation should assume something of a lame man's opinion of dancing, but observation and experience do not justify the deductions of physicians who stigmatize athletics. I have known many hundreds of athletes in different parts of the world, and I have yet to learn of more than one case of hernia resulting from over-exertion. The mechanical impossibility of producing a hernia on a dead body, even if the abdomen be forcibly compressed, if gaps be made in its walls, and the belly subjected to several hundred-weight, and even to horse-power, would seem to demonstrate that hernias do not originate from violent muscular efforts, but are already present, being generally congenital.

Concerning the prevalence of aneurism and heart disease among athletes, there are many current errors that reflect the common judgment. A noted athlete dies of heart trouble, phthisis or paralysis, upon which popular judgment, and regretable to say, the unthinking medical man draw a post-hoc conclusion. It requires but little thought to upset this fallacy.

Athletes, as a class, are not short lived. On the contrary, many who have led sober and regular lives have attained extreme old age. It is hardly necessary to refer to the historical mention of Socrates, who at the age of 60, an age when officers of the Army and Navy are retired, served as hoplite in the Peloponnesian war, and though covered with heavy armor took upon his shoulders a wounded man whom he carried into camp while being pursued by the enemy.

In England the general impression among many is that the occupation of pugilist, instead of being hurtful, is a remarkably healthy one, and it is generally admitted that they live longer than any other men. This assertion is supported by facts that are recognized and commented upon by Dr. Royer-Collard in his celebrated work on *Organoplastie Hygiènique*. We have numerous instances of old athletes who have not become stale. Many persons have heard of old Gabe Ravel, who at a very advanced age, turned back sommersaults. Frenchmen also know of Madame Saqui, who at the age of 70, in Paris, walked a wire stretched at a great height. Circus men are not only healthy, but long lived. The famous clown of London, Joe Wallet, was ten years ago considerably over 70, and as lively and active as he was forty years previously. Old Orde lived to considerably over 90, and a short time before his death, gave bareback performances. Batty was in the business till past 70, and Franks some years since was tumbling somersaults and posturing at Hengler's considerably over 60, and as fresh as a daisy. An inquiry extending over more than fifty years shows that the men who rowed in the Oxford and Cambridge crews lived on an average longer then the men who did not row. The former champion Greco-Roman wrestler, William Miller, informs me that he knows of many athletes who have attained a good old age, and his opinion, the one held generally by professionals, is that the proper employment of athletics united to a regular life is highly conducive to longevity. Mr. Phineas T. Barnum tells me that he considers the exercises of a well conducted circus to be of the most healthy character, developing the performers chiefly into muscle, and making them the most vigorous people living. As a class, they are long lived, in fact more so than persons in ordinary occupations, especially when they have been temperate. Among very old English pugilists may be mentioned Belasco, Adams, and the older Stevenson. A few years since the sporting papers recorded the death, at an advanced age, of Owen Swift, whose extraordinary career as a prize fighter, may be seen in the musty old files of fifty years ago, he then being in the thirties, while Tom Sayers was still in swaddling clothes, and had already killed one man before Jem Mace was born. Some time since the death of Bendigo, who passed from the prize ring to the pulpit, was reported at 68 years; and during the last year

two other noted pugilists have died at advanced age. One of them, Jem Ward, born in London on Christmas day, 1800, was perhaps the oldest boxer in the world. Most New Yorkers can recall Ottignon and "Pop" Whittaker in this connection. I know yet of an old man of 75, who still puts up his hands in a surprising manner and, barring eye sight, is well preserved.

A few years since, in San Francisco, I was walking in the street with the Secretary of the Olympic Club, who talked to me of this very matter, when we came across a very old man, whom he pointed out as a corroborative instance of what he was telling me. This man in days gone by, had been an athlete of the most violent kind, in fact, a man who had misused athletics by such feats as walking a thousand miles in a thousand hours and other like senseless performances.

The untimely death of several notables who have figured extensively in the athletic world during the last fifteen or twenty years, has, in every instance, as far as could be ascertained, been owing to preventable or to immoral causes, the nature of which it is not necessary here to specify. The possibility of over-exertion being the cause of impaired health in after-life is exceedingly problematical.

The result is rather owing to immoderate indulgence and to the neglect of simple hygienic rules. It is, of course, possible for one to abuse and overdo physical exercise, just as one may do by eating too much bread and thereby poisoning oneself; but enlightened common sense would say that in a misuse of this kind, it is the man, not the bread or the athletics that should bear the blame.

On this subject, Dr. Sargent, of Harvard, tells me that he thinks it but fair to state that in many instances the early demise of athletes cannot be directly attributed so much to the results of athletic work as to the free indulgence of gross appetites and passions which they have not the moral power to control, and where this was not the case, they lived beyond the average. From extensive personal knowledge he knows of but two deaths attributable to over-exertion; the others were from dissipation, and its train of attendant evils. Inquiry seems to establish the fact that the occupation of athletics is more favorable to longevity than many of the mechanical and industrial pursuits, notably those of shoemaker, tailor, baker, clerk or miner; and if further trust may be placed in vital statistics, merchants, capitalists, financiers and persons engaged in the transfer of property have not the same lease of life.

I have now put in light a sufficient number of facts the very opposite from those of other observers, who seem to have limited their sphere of action to but one side of the question.

My collection of facts may be wanting in delicate analysis, and the homogeniety and regularity indispensable to science; but the observation of such as I have brought forward, even when observed without the aid of method, forces upon us the induction that no good reason exists for the wholesale condemnation of athletics. On the contrary, it is evident that the healthy exercise of the physical powers, is one of the necessary pastimes of a manly and vigorous race; and that next to food and sleep athletics has the largest share in the recreation of human life. It is, therefore, high time that the conventional opinion of certain medical men and of some educators on this subject should be set aside, and that all the manly sports should be encouraged, and fostered with a view to promote qualities that intimately concern not only the happiness and usefulness of individual life, but also the good of society, and the future of the human race.

SCARLATINIFORM RASHES.

Read before the St. Louis Medico-Chirurgical Society, Oct. 30, 1888.

BY JOSEPH GRINDON, M.D.,
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There is made no claim of originality for this paper, as it consists simply in a re-arrangement of what is to be found in the text-books and current literature of the day. My object has been to group together in this form those erythemata and other diseases of the skin which may by their resemblance to scarlet fever lead to errors of diagnosis, believing that the setting of old truths in a new light is not devoid of benefit.

The early *roseola of syphilis* may somewhat resemble scarlatina, especially when attended with throat complications and syphilitic fever. It is not necessary to do more than allude to the possibility of mistake here.

It was long since noted, by Sir James Paget, that the wounded are specially predisposed to scarlet fever. This was confirmed later by many eminent French and English observers. Mr. Holmes, while admitting the fact, contended that many so-called cases of "surgical scarlet fever" were really due to septicæmia or pyæmia, to the absorption of some other than the true scarlatinous poison. I believe that the predisposition above spoken of, and also the existence of a *scarlatiniform septicæmic rash*, are now admitted on all sides, but there seems still to be considerable difference of opinion as to the relative prevalence of the two.

The appearance of a scarlet rash in a puerperal woman gives scope for the exercise of one's diagnostic powers. The date of delivery marks a change in the receptivity of woman for the contagious diseases. The pregnant female is *less*,

and the puerperal female is *more* liable than others. Not only so, but the disease is apt to run a malignant course in the latter condition. It is in the occasionally mild cases, however, of scarlatina puerperalis that the difficulties of differentiation arise. For there has been observed a septicæmic rash in this condition essentially the same as that due to sepsis occurring as a surgical complication. It may present, as in a case observed by myself some years ago at the Female Hospital, a most deceptive counterfeit of true scarlatina. Dr. J. C. Thomas, in the *Journal of Cutaneous and Venereal Diseases* for January, 1885, gives the points of differential diagnosis as follows: "The absence of the history of the prodromata of scarlatina, the absence of throat symptoms, the moderate temperature and the moderate amount of constitutional irritation, the history of the development and decline of the eruption and the character of the desquamation." The last is apt to be in large scales and strips. The fever is slight and other evidences of sepsis usually not pronounced. In the three cases reported by the writer just mentioned the rash appeared on the second, fifth and ninth post-partem day, severally. The eruption remained out seven or eight days in these cases. Duhring thinks the rash appears between the third and fifth days.

The period of invasion or first day or two of eruption of variola is sometimes marked by the appearance of an *adventitious rash* which may be roseolar, urticarial or petechial, but which at times, as in a case of mine, simulates true scarlatina of the most intense type. It should be remembered, however, that smallpox and scarlet fever may occur in the same individual at the same time. The adventitious erythema, however, is more short-lived than the exanthem it mimics, and will also be without a history of scarlatinal contagion. Where both contagia are present one may well pause before giving a decided opinion. It was once my fortune to have under my care a family consisting of a mother and three children. The mother and one child had smallpox, another child at the same time had unmistakable scarlet fever, and the third died exsanguine from repeated hæmorrhages from various mucous orifices. Had it not been for a few abortive papules about the wrists, the diagnosis between scarlatina hæmorrhagica and variola hæmorrhagica would not have been made.

Diphtheria is at times accompanied by a cutaneous manifestation which may be scarlatiniform, although oftener roseolar. A case of this kind was reported by me, and another by Dr. Hermann, before this Society last April. Bearing in mind the fact that scarlatina anginosa may present patches of necrotic membrane on the fauces, palate, etc., constituting the so-called "scarlatinal diphtheria," in which the membrane is essentially identical with that found in primary diphtheria, the difference being, according to most observers, purely etiological, it can easily be seen how difficult the diagnosis between scarlatinal diphtheria and diphtheria with scarlatiniform erythema may become, especially when we add another complicating factor to the problem, which is, that true diphtheria and scarlatina may co-exist in the same individual. J. Lewis Smith claims to have seen cases of uncomplicated primary diphtheria derived from the last named complication, thus establishing, if we accept the observation, the true diphtheritic nature of the process in the last named class of cases.

As to the establishment of the separate identity of "scarlatinal diphtheria" and diphtheria with scarlatiniform rash, we must remember that although there would probably be in both adenopathy and perhaps albuminuria, that in the first named disease there is never, according to Koven and Henoch, secondary paralysis. Of course there may be paresis from inflammation, or necrosis of muscular tissue. The fugacious character of the symtomatic erythema would be its chief diagnostic feature. There have been recognized two forms, one, early, accompanied with but little fever, and another, late, the effect of sepsis.

Dr. Brocq, of Paris, in an article on "Desquamative Scarlatiniform Erythema," in the *Journal of Cutaneous and Venereal Diseases* for August, 1885, from which I draw largely, says that this affection "is characterized by an initial stage of pronounced fever, similar to that of scarlatina; by an intense redness of the entire cutaneous surface, which subsequently peels off in flakes; and by the occurrence of complete recovery in from three to six weeks." After the subsidence of the primary attack the disease tends to reappear three or four times, or even oftener. Hence the word "relapsing" has been prefixed to its designation. The doctor had at the date mentioned collected 14 cases.

The eruption is preceded by a precursory stage of variable duration, sometimes lasting several days, during which there are feelings of discomfort and fatigue, and rigors followed by high fever, attended at times with violent head and back ache.

The point at which the cutaneous lesion first appears is sometimes on the upper and sometimes on the lower part of the body, usually diffusing itself over the whole surface in twenty-four hours, although it may take as long as four to six days. The face, as in scarlatina, is usually not so red as the rest of the body. In a general way it may be said that the extensor surfaces are of lighter tinge than the flexor. The abdomen, however, is often quite dark. The redness can be temporarily obliterated by pressure of the finger.

The time at which desquamation appears can not be accurately determined, but it is often three or four days after the eruption has reached its

height, and while it is still in full florescence. This phenomenon is first noticed at the regions earliest implicated and is remarkable for its flaky character, the flakes being large, thin and transparent, and for its abundance. In one case mentioned by the author from whom the main facts of this description are taken, three litres of scales were collected in five days. On the face the scales are smallest, in fact furfuraceous, and are largest about the neck. On the palms the same desquamation *en masse* may take place as is observed in scarlatina. With the outset of desquamation the constitutional symptoms disappear. The mucous membranes of the throat and eyes are sometimes reddened.

The period of scaling averages between two and three weeks of duration.

The diagnosis between this disease and scarlatina is difficult when we have to do with a first attack, and sometimes only a retrospective diagnosis will be possible. But in this disease the onset is less abrupt than in scarlet fever, the redness of the skin is more marked and often persists after the eighth day, desquamation is more abundant, is lamellated, and frequently repeated. The disease is non-contagious, and nephritis and adenopathy are never present. Cases of this kind have been reported by Besnier, Féréol, Duhring and others, and seem to have been included by Bateman under the head of pityriasis rubra, a name since restricted to a different and much graver affection.

Hardy has described a *scarlatiniform erythema*, the *roseola scarlatiniforme* of Bazin and *erythema punctatum* of M'Call Anderson which lasts from 24 to 48 hours, presents an appearance of the skin almost identical with that of scarlatina, and is followed by some scaling off. It seems always to depend upon gastric derangement and is non-contagious. The points which distinguish it from scarlatina are, that the pulse remains nearly at the normal, the tongue continues to present its normal appearance, and that there are no sequelæ of any kind. Of course it is as liable to occur in one having had scarlatina as in anyone else, and, on the other hand, confers no immunity against that disease.

The early stages of *pityriasis rubra*, or *dermatitis exfoliative*, may be mistaken for scarlatina. But in the affection known under these two names there are no prodromata, the temperature is generally lower, and the course of the disease, except just at first, altogether different.

I have reserved a brief notice of the best marked of the scarlatiniform rashes due to the ingestion of drugs for the end of this paper. A thorough treatment of even this limited portion of the subject of dermatitis medicamentosa would exceed my powers of performance and yours of attention. The subject is growing every day, because, first, it is not long since it began to receive the attention it deserves, and second, from its very nature it ever must grow. As new drugs are introduced new drug eruptions will be heard of.

Perhaps the most truly scarlatiniform of these is that produced by *belladonna* or *atropia*. It was this which led believers in the doctrine of similars to use the drug in the treatment and prophylaxis of scarlatina. In this, as in all forms of medicamentous dermatitis, personal idiosyncrasy is the chief etiological factor, the most marked effects sometimes following the smallest doses. Children are said to be more obnoxious to this accident than adults, but that it is by no means confined to them may be illustrated by the following observation.

A lady 67 years of age had a few drops of a solution of the sulphate of atropia, 2 grs. to the ounce, dropped into each eye. She soon complained of dizziness, intense faucial dryness and general pruritus. On examination I found both pupils dilated *ad maximum*, and the face and neck of a bright scarlet hue, which gradually faded and disappeared in something less than twenty-four hours. Six months later the same procedure was followed by the same results. It is manifestly unnecessary here to indicate points of diagnostic difference, but I may be permitted to call attention to the fact that the belladonna eruption is most profuse where the exanthem is usually palest, *i. e.*, about the face.

The *chloral* eruption is sometimes much like that last described, lasts from a half to four hours, and may be followed within twenty-four hours by light desquamation. The occurrence of a relapse after discontinuance of the medicine has been observed and need not cause us to change our minds as to the drug and the erythema bearing to each other the relation of cause and effect.

The cutaneous accident due to the ingestion or absorption of *mercury* is often scarlatiniform. A dose of 2 grains of calomel has been known to bring out a copious eruption.

Opium and *morphine* bring out at times a rash of this type, which, like scarlatina, is apt to be best marked on the flexor surfaces. It is occasionally followed by desquamation, glove and stocking casts having been shed off as in the exanthem. To make the resemblance greater, there is at times an erythematous inflammation of the pharynx.

The *quinine* eruption may at times closely simulate scarlatina. The absence of characteristic prodromata, of sore throat, of the rapid pulse and the characteristic tongue should aid us in detecting the counterfeit. Here again there has been observed desquamation similar to that following the opium rash, as in a case reported to this Society by Dr. Wolfner.

The eruption due to *oil of turpentine* is likewise sometimes followed by desquamation.

Digitalis, *stramonium*, *strychnia* and *salicylic acid*

might also be mentioned here. The list of drugs which have been known to produce eruptions having some resemblance to that of scarlet fever might be greatly extended, but my desire is to mention only those the effects of which would be most likely to mislead in the particular direction now under consideration. I suppose it is well understood that the medicaments mentioned may produce effects differing widely from those which have been described. In fact it would seem that the particular type of the cutaneous accident depends more upon individual peculiarity than upon the drug administered.

I am chiefly indebted for the facts mentioned in the last part of this brief review to the writings of Arthur van Harlingen and P. A. Morrow, which all may consult with benefit.

AN INTRODUCTION TO THE STUDY OF PNEUMONIC FEVER.

BY EDWARD F. WELLS, M.D.

FIFTH PAPER.—GEOGRAPHY.

Medical geography is, equally with historical pathology, one of the most fruitful means of etiological research. It enables us to become acquainted with the different regions of the globe in which certain diseases prevail, and thus allows upon the grandest scale the study of cosmic, tellurial and even anthropological conditions that may favor or hinder their development.[1]

Pneumonic fever prevails in every part of the world, but, as is the case with all other maladies, it is more common in some localities than in others.[2] It is more prevalent in temperate than in either frigid or torrid regions. Beginning at the poles, its frequency increases in a gradual manner until the maximum is attained at a certain latitude in either temperate zone, and from these points it diminishes as we approach the equator, so that in some tropical countries the malady is somewhat of a nosological rarity.[3] This is only true as a general proposition, and there can be found so many apparent exceptions that it is quite clear that latitude alone has no influence over the prevalence of the disease.

The influence of latitude upon the prevalence of pneumonic fever is shown in the following table:

TABLE X.—SHOWING LATITUDINAL PREVALENCE OF PNEUMONIC FEVER.

LOCALITY.	DEATH RATE.	
	Per 100 Deaths.	Per 1,000 Persons.
0°–10° North.		
Ceylon		.70
Sierra Leone		.59
Average		.60
10°–20° North.		
Antilles		1.30
Bombay		.40
Central America		1.82
Jamaica		.30
Madras		.70
Average		.90
20°–30° North.		
Bengal		1.40
Cuba		1.40
Florida	6.6	.74
San Antonio	1.9	.33
Sandwich Islands	2.0	.61
Averages	3.5	.89
30°–40° North.		
Alabama	9.7	1.38
Algiers		2.10
Arizona	10.3	.75
Arkansas	13.2	2.43
Baltimore	6.5	1.13
Bermuda		.60
California	10.6	.74
Charleston	3.6	1.30
Cincinnati	6.7	1.54
Colorado	18.0	1.92
Delaware	6.6	.83
Denver	14.3	1.85
District of Columbia	9.0	2.05
Georgia	7.8	1.09
Gibraltar		.70
Kansas	9.0	1.60
Kentucky	8.0	1.09
Knoxville	9.0	1.55
Louisiana	12.7	1.56
Malta		.50
Maryland	8.0	1.13
Memphis		2.50
Mississippi	12.2	1.57
Missouri	13.3	2.18
Nevada	20.2	2.36
New Mexico	6.5	1.34
New Orleans	4.4	1.59
North Carolina	5.9	.91
Petersburg	7.0	1.75
Philadelphia	6.2	1.30
Richmond	5.1	1.29
San Francisco	8.0	1.63
Savannah	5.2	1.70
Selma	12.0	2.00
South Carolina	7.6	1.12
St. Louis	6.3	3.77
Tennessee	8.6	1.41
Texas	10.4	1.59
Utah	12.2	2.06
Virginia	7.7	1.24
West Virginia	5.8	.70
Averages	7.8	1.51
40°–50° North.		
Austro-Hungary		2.42
Bavaria		2.20
Belleville, Ont.	3.7	.63
Boston	5.3	1.23
Brantford, Ont	9.0	1.27
Brooklyn	8.0	1.71
Canada		1.32
Chicago	5.5	1.09
Cleveland	5.7	1.41
Connecticut	6.6	1.15
Dakota	8.4	.81
France		1.90
Geneva		1.30
Guelph, Ont.	4.3	.63
Hamilton	5.4	1.13
Hartford	7.4	1.66
Idaho	10.8	1.09
Illinois	9.6	1.48
Indiana	9.0	1.60
Iowa	8.1	1.00
Italy		1.85
Kingston	4.3	.87
London, Ont.	6.2	.90
Maine	8.3	1.06
Massachusetts	6.6	1.35
Michigan	5.8	.80
Milwaukee	5.5	.90
Minnesota	5.0	.58
Montana	9.5	.82

[1] Charcot, Diseases of Old Age, N. Y., 1881, p. 85.

[2] Huss—Lungenentzündung, etc., Leipzig, 1861, p. 2—says that the prevalence is everywhere the same.

[3] For a discussion of this entire question see Lænnec, Traité de l'Auscultation Mediate, Paris, 1819; Swett, Diseases of the Chest, N. Y., 1856, p. 79; Grisolle, Traité Prat. de la Pneumonie, Paris, 1841, p. 124; Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Leipzig, 1877, Bd. v, S. 13; Fonssagrive, Encycl. des Sci. Méd., T. xviii, 1876, art. Climate; Hirsch, Handb. d. Hist.-Geog. Path., Erlangen, 1860–64, Bd. ii, S. 26; Flint, Am. Jour. Med. Sci., Jan., 1861, p. 17; Green, Quain's Dic. Med., N. Y., 1883, p. 874; Sanders, Am. Jour. Med. Sci., July, 1882, p. 94; Ziemssen, Präger Vierteljahrschr., 1858.

Locality.	Death Rate. Per 100 Deaths.	Per 1,000 Persons.
Montreal	4.0	1.02
Nebraska	7.0	.92
New Brunswick	. . .	1.10
Newfoundland	. . .	.30
New Hampshire	7.7	1.32
New Haven	6.0	1.20
New Jersey	4.8	1.10
New York	7.2	1.03
New York City	. . .	2,03
Nova Scotia	. . .	1.10
Ohio	6.4	.75
Ontario	5.3	.51
Oregon	4.8	.57
Ottawa	3.5	1.20
Paris	. . .	2.56
Pennsylvania	7.3	.97
Pittsburgh	7.6	1.65
Providence	7.2	1.50
Rhode Island	6.4	.90
Rochester	5.5	.90
St. Catharines	7.0	1.13
St. Paul	6.3	.77
St Thomas, Ont.	7.8	.97
Switzerland	7.8	1.50
Toronto	6.6	1.39
Turin	. . .	2.20
Vermont	9.8	1.49
Washington	7.9	.71
Wisconsin	6.9	.78
Wyoming	9.5	.90
Zürich	8.8	2.05
Averages	6.7	1.21
50°–60° North.		
Belfast	. . .	.44
Belgium	. . .	.85
Berlin	. . .	1.21
Breslau	. . .	1.20
Copenhagen	. . .	1.71
Cork	. . .	.46
Denmark	. . .	1.57
Dresden	. . .	.40
Dublin	. . .	.81
Edinburgh	. . .	1.42
England	. . .	1.25
Faroe Islands	. . .	.71
Germany	. . .	1.34
Germersheim Garrison	7.6	.40
Ghent	. . .	1.21
Halle	. . .	2.29
Hamburg	3.3	1.80
Iceland	. . .	.79
Ireland	. . .	.27
Leith	. . .	1.50
Limerick	. . .	.60
London	. . .	1.69
Netherlands	. . .	1.90
New Archangel	. . .	2.30
Norway	2.9	.50
Russia	. . .	1.05
Scotland	. . .	.73
Sweden	. . .	1.60
Würzburg	. . .	1.50
Averages	4.6	1.12
10°–20° South.		
St. Helena	. . .	.80
20°–30° South.		
Australia	. . .	.72
30°–40° South.		
Cape Colony	. . .	.70
Cape Town	. . .	1.00
Average	. . .	.85

Résumé.

Latitude.	No. of Places.	Per 100 Deaths. Mean.	Maximum.	Minimum.	Fluctuat'n.	Per 1,000 of Pop. Mean.	Maximum.	Minimum.	Fluctuat'n.
0°–10° North	2	. .	. . .	. .	. .	.60	.70	.50	.20
10°–20° "	5	. .	. . .	. .	. .	.90	1.82	.30	1.52
20°–30° "	5	3.5	6.6	1.9	4.5	.89	1.40	.33	1.07
30°–40° "	41	7.8	20.2	3.6	16.6	1.51	3.77	.50	3.27
40°–50° "	60	6.7	10.8	4.0	6.8	1.21	2.56	.30	2.26
50°–60° "	29	4.6	7.6	2.9	4.7	1.12	2.30	.27	2.03
10°–20° South	1	. .	. . .	. .	. .	.80	.80	.80	.00
20°–30° "	1	. .	. . .	. .	. .	.72	.72	.72	.00
30°–40° "	2	. .	. . .	. .	. .	.85	1.00	.70	.30
Total and averages	145	7.1	20.2	2.9	17.1	1.27	3.77	.27	3.50

Sanders[4] claims that in North America pneumonic fever increases in frequency from east to west, whilst in Europe it does so from west to east, but a glance at Table XI shows that longitude alone has but little influence over the prevalence of the disease.

TABLE XI.—Showing Longitudinal Prevalence of Pneumonic Fever.

Locality.	Death Rate. Per 100 Deaths.	Per 1,000 Persons.
0°–10° West.		
Belfast	. . .	.44
Cork	. . .	.46
Dublin	. . .	.81
Edinburgh	. . .	1.42
England	. . .	1.25
Faroe Islands	. . .	.71
Gibraltar	. . .	.70
Ireland	. . .	.27
Leith	. . .	1.50
Limerick	. . .	.60
London	. . .	1.69
Scotland	. . .	.73
Sierra Leone	. . .	.50
St. Helena	. . .	.80
Average	. . .	.85
10°–20° West.		
Iceland	. . .	.79
50°–60° West.		
Newfoundland	. . .	.30
60°–70° West.		
Antilles	. . .	1.30
Bermuda	. . .	1.30
Maine	8.3	1.08
New Brunswick	. . .	1.10
Nova Scotia	. . .	1.10
Providence	7.2	1.50
Rhode Island	6.4	.90
Averages	7.3	1.18
70°–80° West.		
Baltimore	6.5	1.13
Belleville	3.7	.63
Boston	5.3	1.23
Brantford	9.0	1.27
Brooklyn	8.0	1.71
Canada	. . .	1.32
Charleston	3.6	1.30
Connecticut	6.6	1.15
Delaware	6.6	.83
District of Columbia	9.0	2.05
Hamilton	5.4	1.13
Hartford	7.4	1.66
Jamaica	. . .	.30
Kingston	4.3	.87
Maryland	8.0	1.13
Massachusetts	6.6	1.35
Montreal	4.0	1.02
New Hampshire	7.7	1.32
New Haven	6.0	1.20
New Jersey	4.8	1.10
New York	7.2	1.03
Ontario	5.3	.51
Ottawa	3.5	1.20
Pennsylvania	7.3	.97
Petersburg	7.0	1.75
Philadelphia	6.2	1.30
Pittsburgh	7.6	1.65
Richmond	5.1	1.29
Rochester	5.5	.90
Vermont	9.8	1.49
Virginia	7.7	1.24
Averages	6.4	1.12
80°–90° West.		
Alabama	9.7	1.38
Central America	. . .	1.82
Chicago	5.5	1.09
Cleveland	5.7	1.41
Cuba	. . .	1.41
Florida	6.6	.74
Guelph	4.3	.63
Illinois	9.6	1.48
Indiana	9.0	1.60
Kentucky	8.0	1.09
Knoxville	9.0	1.55
London, Ont	6.2	.90
Michigan	5.8	.80
Milwaukee	5.5	.90
New Orleans	4.4	1.59

[4] Am. Jour. Med. Sci., July, 1882, p. 94.

TABLE XI—CONCLUDED.

Ohio	6.4	.75
Savannah	5.2	1.70
Selma	12.0	2.00
South Carolina	7.6	1.12
St. Catharines	7.0	1.13
St. Thomas, Ont	7.8	.97
Tennessee	8.6	1.41
Toronto	6.6	1.39
West Virginia	5.8	.70
Averages	7.1	1.23
90°–100° West.		
Arkansas	13.2	2.43
Cincinnati	6.7	1.54
Dakota	8.4	.81
Georgia	7.8	1.09
Iowa	8.1	1.00
Kansas	9.0	1.60
Louisiana	12.7	1.56
Memphis		2.50
Minnesota	5.0	.58
Mississippi	12.2	1.57
Missouri	13.3	2.18
Nebraska	7.0	.92
San Antonio	1.9	.33
St. Louis	6.3	3.77
St. Paul	6.3	.77
Texas	11.4	1.59
Wisconsin	6.9	.78
Averages	8.1	1.49
100°–110° West.		
Colorada	18.0	1.92
Denver	14.3	1.85
New Mexico	6.5	1.34
Wyoming	9.5	.90
Averages	12.1	1.50
110°–120° West.		
Arizona	10.3	.75
Idaho	10.8	1.09
Montana	9.5	.82
Nevada	20.2	2.36
Utah	12.2	2.06
Averages	12.6	1.41
120°–130° West.		
California	10.0	.74
Oregon	4.8	.57
San Francisco	8.0	1.63
Washington	7.9	.71
Averages	7.7	.91
150°–160° West.		
Sandwich Islands	2.0	.61
0°–10° East.		
Algiers		2.00
Belgium		.85
Denmark		1.57
France		1.90
Geneva		1.30
Ghent		1.21
Hamburg	3.3	1.80
Netherlands		1.90
Norway	2.9	.50
Paris		2.56
Switzerland		1.50
Turin		2.20
Zürich	8.8	2.05
Averages	5.0	1.65
10°–20° East.		
Austro-Hungary		2.42
Bavaria		2.20
Berlin		1.21
Breslau		1.20
Cape Town		1.00
Copenhagen		1.71
Dresden		.40
Germany		1.34
Germersheim Garrison	7.6	.40
Halle		2.29
Italy		1.85
Malta		.50
Sweden		1.60
Würzburg		1.50
Averages	7.6	1.40
20°–30° East.		
Cape Colony		.70
30°–40° East.		
Russia		1.05
40°–50° East.		
New Archangel		2.30
70°–80° East.		
Bombay		.40
Madras		.70
Average		.55
80°–90° East.		
Bengal		1.40
Ceylon		.70
Average		1.55
130°–140° East.		
Australia		.72

RÉSUMÉ

LONGITUDE.	No of Places.	Per 100 Deaths. Mean.	Maximum.	Minimum.	Fluctuat'n.	Per 1,000 Persons. Mean.	Maximum.	Minimum.	Fluctuat'n.
0°- 10° West	15	. .	. . .	. .	. .	.85	1.69	.27	1.42
10°- 20° "	1	. .	. . .	. .	. .	.79	.79	.79	.00
50°- 60° "	1	. .	. . .	. .	. .	.30	.30	.30	.00
60°- 70° "	8	7.3	8.3	6.4	1.9	1.18	1.50	.90	.60
70°- 80° "	31	6.4	9.8	3.5	6.3	1.12	2.05	.30	1.75
90°- 90° "	24	7.1	12.0	4.3	7.7	1.23	2.00	.63	1.37
90°-100° "	17	8.1	13.3	5.0	8.3	1.49	3.77	.33	3.44
100°-110° "	4	12.1	18.0	6.5	11.5	1.50	1.92	.90	1.02
110°-120° "	5	12.6	20.2	9.5	10.7	1.41	2.36	.75	1.61
120°-130° "	4	7.7	10.0	4.8	5.2	.91	1.63	.57	1.04
150°-160° "	1	2.0	2.0	2.0	.0	.61	.61	.61	.00
0°- 10° East	14	5.0	8.8	3.3	5.5	1.65	2.56	.50	2.06
10°- 20° "	14	7.6	7.6	7.6	.0	1.40	2.42	.40	2.02
20°- 30° "	1	. .	. . .	. .	. .	.70	.70	.70	.00
30°- 40° "	1	. .	. . .	. .	. .	1.05	1.05	1.05	.00
40°- 50° "	1	. .	. . .	. .	. .	2.30	2.30	2.30	.00
70°- 80° "	2	. .	. . .	. .	. .	.55	.70	.40	.30
80°- 90° "	2	. .	. . .	. .	. .	1.55	1.40	.70	.70
130°-140° "	1	. .	. . .	. .	. .	.72	.72	.72	.00
Total and averages	147	7.1	20.2	2.0	18.2	1.27	3.77	.27	3.50

Pneumonic fever is met with more frequently on land than upon the open sea or the smaller sea-islands,[5] although this is denied by some.[6]

The location of cities in proximity to large bodies of water does not appear to exert that influence over the prevalence of pneumonic fever which one would be led to expect.

Thus, 31 lake or inland seaports show a death-rate of 1.35 per 1,000 inhabitants, annually; 90 inland cities, 1.29 per 1,000; and 58 ocean ports, 1.20 per 1,000. An average of the 179 cities gives an annual mortality of 1.26 per 1,000 of population.

It might be a natural supposition that altitude would exercise a marked influence over the prevalence of pneumonic fever, and yet the statistical material at our disposal is of such a nature as to preclude the arrival at a positive conclusion regarding it.

At high altitudes the atmospheric pressure is very considerably diminished, and if the country is, in addition, mountainous, the inhabitants, in ascending the heights, require increased action of the lungs with a corresponding acceleration of the circulation. Under such conditions it might be supposed that the lungs would be in a condition favorable for the development of pneumonic fever, and that this disease is especially prevalent in such localities is affirmed by many authors.[7]

Thus Lombard,[8] basing his opinion upon the impression of a large number of the practitioners of the mountain tops and high uplands of Swit-

[5] Ziemssen, Präger Vierteljahrschr., 1858; Hermann, Lungenentzündung, etc., S. 6; Swett, Dis. Chest, p. 81.

[6] Lebert, Klinik d. Brustkrankh., Tübingen, 1874, Bd. i, S. 710; Lépine, Die Acute lobäre Pneumonie, Wein, 1883, S. 21.

[7] Hirsch, Handb. d. Hist. u. Geog. Path., Erlangen, 1864, Bd. ii, S. 36; Lombard, Traité de Climatol. Méd., T. iv, Paris, 1880, p. 392; Waldenburg, Die Tuberculose, etc., Berlin, 1869; Brown, Jour. Am. Med. Ass., March 7, 1885, p. 262; LaRoche, Pneumonia, Phila., 1854, p. 81; Williams. Cycl. Prac. Med., Vol. iii, p. 407; Grisolle, Traité de la Pneumonie, Paris, 1841; Milliken, Cincinnati Lancet and Clinic, Dec. 16, 1882, p. 578. [8] Op. cit., p. 392.

zerland and Germany, claims that the prevalence of pneumonic fever gradually increases as we ascend from the sea level, and is met with most frequently in localities of the greatest altitude. Hirsch[9] says that the disease is very common in the South American Andes, the mountain lands of Abyssinia and the elevated plains of Arabia. It is very prevalent in the Allegheny mountains[10] and on the top of Mont Cenis.[11]

On the contrary, it is rare in the elevated cities of Boulder,[12] Denver,[13] Ft. Bridger,[14] Sorocco[15] and Mexico,[16] and it has even been claimed that there is a lessening of the prevalence as we ascend toward the highest inhabited mountain regions.[17]

The relations of altitude and pneumonic fever are shown in the following table:[18]

TABLE XII.—SHOWING RELATION BETWEEN ALTITUDE AND THE PREVALENCE OF PNEUMONIC FEVER.

Altitude.	Locality.		Altitude.	Locality.	
10	New Orleans	1.59	285	Hamburg	1.80
10	Stamford	1.86	364	Halle	2.30
15	Norfolk	2.21	400	Memphis	2.50
20	Savannah	1.70	506	Rochester	.90
20	Baltimore	1.13	540	Cincinnati	1.54
30	Jersey City	1.79	561	Würzburg	1.50
30	New Archangel	2.30	591	Chicago	1.30
30	Philadelphia	1.30	880	Basle	1.90
35	New York	2.03	940	Burlington	.38
35	Brooklyn	1.71	1280	Geneva	1.30
40	Boston	1.23	1500	Winona	.81
45	Washington	2.19	1690	Munich	.54
150	Marseilles	3.70	5250	Boulder[19]	.71
177	Genoa	3.30	5269	Denver[20]	1.85
185	Augusta	3.00			
285	Trieste	2.30		Average	1.27

Although pneumonic fever may not be met with so frequently at great elevations, yet in such localities it is very fatal.[21] Under these circumstances the death-rate bears a large proportion to the actual number of cases or the prevalence.

At an elevation of from 4,000 to 5,000 feet the disease is, probably, not so common as at a lower level, but it is more severe. At an elevation of 7,000 feet or more, epidemics are frequent and the malady is almost always sthenic and malignant, and at an elevation of 10,000 feet it is usually fatal in about three days.[22]

EUROPE.—In Europe pneumonic fever prevails to an extent slightly above the general average, the death-rate being 1.31 per 1,000 inhabitants.[23]

Iceland.—On this island pneumonic fever, in common with other thoracic diseases, is comparatively rare,[24] it being the cause of 3.2 per cent. of all deaths and an annual mortality of .79 per 1,000 inhabitants.[25] In 1863 there prevailed an extensive and very fatal epidemic.[26]

Norway and Sweden.—In these countries this malady is quite common,[27] but varying considerably in different localities.[28] The disease pursues an acute course, and when fatal it is rapidly so.[29]

Faroe Islands.—Here pneumonic fever is less prevalent than the average,[30] causing only 4.5 per cent. of the deaths and an annual mortality of .71 per 1,000 persons.[31]

Russia.—The disease causes, in this land, 1.5 deaths per 1,000 of population, although in some parts of the country it is much more prevalent.[32]

Denmark.—In this country pneumonic fever prevails somewhat above the average, being responsible for 6.4 per cent. of the deaths and 1.57 deaths per 1,000 persons per annum,[33] although it is higher in Copenhagen.[34]

Germany.—Throughout the empire this disease prevails very generally, and slightly above the average—a mortality of 1.34 per 1,000 inhabitants per annum.[35]

In the imperial army, during a period of eight years, pneumonic fever caused 12.3 per cent. of the deaths, although the mortality from this cause was but .47 per 1,000 of force.[36] At the Germersheim Garrison, during 26 years, it caused 7.6 per cent. of deaths and a loss of .40 per 1,000 soldiers.[37]

In Prussia, 3.9 per cent. of the deaths in the kingdom at large, and 7.5 per cent. in 14 of her large cities, arise from this malady.[38] In Berlin, during 26 years the annual death-rate was 1.12 per 1,000 of population.[39] Breslau gives a death-

9 Op. cit., S. 36. 10 Trans. Pa. Med. Soc.. Vol. i, p. 105.
11 Chomel, Pneumonie, Leipzig, 1841, S. 312.
12 Repts. State Board of Health of Colorado.
13 Ibid.
14 Bartholow, Am. Jour. Med. Sci., April, 1860, p. 323.
15 Naphegyi, N. Y. Journal Med., May, 1855; Müller, Deutsch. Klinik, 1857.
16 Newton, Méd. Topog. Mexico, N. Y., 1848.
17 Ziemssen, Präger Vierteljahrschr., 1858; Sanders, l. c.
18 Facts regarding height were obtained from Drake, Dis. Int. Valley, N. A., Vol., i, Cincinnati, 1850; Fonssagrive, Hyg. et Ass. des Villes, Paris, 1874, p. 75; Sanders, Am. Jour. Med. Sci., 1882; and by correspondence.
19 This is from Sanders—op. cit.—but is probably an error.
20 Chamberlain—N. E. Med. Monthly, 1883—erroneously credits Denver with the lowest death rate from this disease of any city in the United States, and Sanders gives the death rate at .34.
21 Lombard—Climate de Montagues, p. 70—claims that most of the very fatal epidemics occur in the high mountain valleys, with the spring melting of the snow and ice.
22 Milliken, Cincinnati Lancet and Clinic, Dec. 16, 1882, p. 578. See also Jayne, Phila. Med. News, Nov. 10, 1888, p. 520.
23 Sanders—Am. Jour. Med. Sci., July, 1882—gives the proportion as 1.57 per 1,000.
24 Schliessner, Island undersögt fra et laegeviderskabel synfpunkt, Kjöbenh, 1849; Hirsch, Hist. u. Geog.-Path., Bd. ii, S. 22; Reynolds' Syst. Med., Phila., 1880, Vol. ii, p. 154; Hjaltelin, Edinb. Fox, Med. Jour., April, 1864; Caton, London Lancet, 1884, Vol. ii, p. 135.
25 Sanders, op. cit. 26 Hjaltelin, op. cit.
27 See Halland, Abhandl. d. Schwed. Akad., Bd. xxxvi, S. 64; Williams, Cyclp. Prac. Med., Vol. iii, p. 408; Huss, Om Sverges endem Sjukd, Stockh., 1852, p. 22; et Lungenentzündungen, Leipzig, 1861, S. 3; Harmand, Medicina Lapponum, Goth., 1734; Ziemssen, Präger Vierteljahrschr., 1858; Hirsch, op. cit.; Browall, Abhandl. d. Schwed. Akad., Bd. v, S. 56; Wistrand, Samendrag of Arsrapportena fran kgl. allmänna Garnison, Stockh., 1851.
28 Walton, U. S. Naval Rpts., 1881, p. 67; Sanders, op. cit., p. 82.
29 Walton, op. cit.
30 Manicus, Biblioth f. Läger, 1824, p. 15; Panum; Ibid, 1847, i, p. 277; Hirsch, op. cit., S. 22.
31 Tulloch, Mortal. Brit. Army; Sanders, op. cit.
32 See Attenhofer, Med. Topog. St. Petersburg, Zürich, 1817; Bluhm, Krankh. in Reval, Marburg, 1790; Erdmann, Med. Topog. Kasan, Riga, 1822; Blaschke, Topog. Méd. Novi Archangelcensis, Petropoli, 1842, p. 66; Bardowsky, Med. Zeitschr. Russl., 1850, Nr. 20; Gebler, Ann. d. Heilk., 1813, S. 330; Rex. Med. Zeit. Russl, 1859, S. 408; Thielmann, Med. Jahresb. von Peter-Paul's Hospt., St. Petersb., 1840-1851; Jonin, Med. Zeit. Russl., 1849, Nr. 45; Hirsch, op. cit; Sanders, op. cit; Bogonodsky, Med. Zeit. Russl., 1854, S. 1.
33 Sanders, op. cit.
34 Ziemssen, op. cit.; Fox, op. cit., p. 154.
35 Sanders, op. cit.
36 Hermann, Lungenentzündung, Münchén, 1880
37 Hermann, op. cit.
38 Sanders, op. cit.
39 Ziemssen, op. cit.; Hermann, op. cit.

rate of 1.20 per 1,000 inhabitants.[40] In Hamburg the disease is very prevalent.[41]. It is very common in Kiel and Tübingen,[42] and Halle is peculiarly afflicted, showing an average annual death-rate of 2.29 per 1,000 persons, in a series of ten years.[43] Bavaria also shows a high mortality rate from this disease.[44]

Austro-Hungary.—In this country the malady prevails to an extent considerably beyond the average—6.9 per cent. of deaths and 2.42 per 1,000 of population.[45] It is very common both in Vienna[46] and Budapest.[47]

Switzerland suffers a death-rate from this disease of 1.50 per 1,000 inhabitants, and 7.8 per cent. of her mortality is due to this cause.[48] The proportion in the Canton Zürich[49] and in the cities of Zürich[50] and Geneva[51] are still greater.

Holland is afflicted by this disease in a degree considerably greater than the average,[52] although it is less prevalent in Ghent.[53]

Belgium, as a country, does not suffer severely from pneumonic fever, although her two largest cities are slightly above the average.[54]

Great Britain and Ireland.—In Scotland this disease prevails considerably below the average,[55] even in the cities,[56] whilst in England and Wales the prevalence is an average one,[57] being more common in London,[58] Bristol,[59] Bolton,[60] Kendal,[61] Malvern,[62] Cornwall,[63] and some other localities, and less prevalent in Cheltenham,[64] Sidmouth,[65] Guernsey[66] and Devonshire.[67] It has been thought by some that the malady is now less prevalent than formerly,[68] and this opinion is apparently supported by statistics.[69] Ireland is remarkable for its small death-rate—.27 per 1,000 inhabitants—from pneumonic fever.[70]

France.—In this country pneumonic fever is very common,[71] especially on the Alpine and Mediterranean borders,[72] and in Paris[73] and some other cities.

Marseilles is particularly afflicted by this malady. The west winds—here called the mistral—sweep over the Bay of Biscay and down the valley of the Rhone, through the break in the mountains between the Pyrenees and the Maritime Alps, recur frequently during the winter, and are very blighting to animal and vegetable life. In one year, during the months of January and February, when the mistral was unusually protracted and severe, there were more than 2,000 cases of pneumonic fever—two-thirds of which were fatal—in a population of 318,000.[74]

The French Army suffers comparatively little from the disease, only 3.9 per cent. of the deaths during a period of 13 years being due to it.[75] It is also rare in Havre[76] and Belle-Isle-in-the-Sea.[77]

Spain and Portugal.—Pneumonic fever is rare in most parts of the peninsula,[78] although common in Lisbon,[79] Madrid,[80] and some other cities.

Italy.—This disease is extremely common in Italy,[81] especially in the northern parts. It is also prevalent in the neighboring Islands.[82]

Greece.—Pneumonic fever is rare in this country.[83].

Africa.—In the most parts of this continent from which we have any authentic returns, pneumonic fever is very prevalent,[84] causing an annual mortality of 3.62 per 1,000 inhabitants,[85] and 9.1

40 Ziemssen, loc. cit.
41 Ziemssen—loc. cit.—gives the rate as 2.17 and Walton—op. cit.—as 1.80 per 1,000 inhabitants.
42 Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Leipzig, 1877, Bd. v, S. 23.
43 Bærensprung, Epidem. Krankh. in Halle, 1854.
44 Klinger, Lungenkrankh. in Bayern, München, 1874; Sanders, loc. cit.
45 Sanders, op. cit.
46 Juergensen, op. cit., S. 12.
47 Purjesz, Wiener Med. Wochenschr., 1884, Nr. 2, S. 43; Hampeis, Oest Med. Jahrb., 1846, Bd. iii, S. 108.
48 Sanders, op. cit.
49 Weller, Inaug. Diss., Zurich, 1854—8.4% and 1.98 per 1000.
50 Ziemssen, op. cit.; Jahresb., d. Gesundh., Zürich, 1848, ff.
51 D'Espine, Mortal. du Canton de Genève en, 1838, Paris, 1840.
52 Severon, Nederl. Weeklb. voor Geneesk., 1855, Nos. 22–23; Sanders—loc. cit.—gives the proportion as 7.5 per cent. of deaths and 1.90 per 1.000 of population.
53 Ziemssen, op. cit.
54 Sanders, op. cit.
55 Orr—Edinb. Med. and Surg. Jour., Vol. lxiii—Steele—Ibid., Vol. lxxii—and Stark—Ibid., Vols. lxv and lxxi—considered the disease very prevalent, but their figures, when compared with others, do not confirm their belief.
56 Sanders, op. cit.
57 Farr, Reg. Gen. Rpts.; Sanders, op. cit.
58 West, Brit. and For. Med. Chir. Rev., Vol. xv, p. 543; Sanders, op. cit.; Blane, Select Diss., Vol. i, p. 205.
59 Symonds, Trans. Prov. Med. Soc., Vol. ii.
60 Black, Ibid., Vol. v.
61 Proudfoot, Edinb. Med. and Surg. Jour., Vol. xviii, p. 374.
62 Forbes, Prov. Med. Trans., Vol. iv, p. 173.
63 Addison, Ibid., p. 137.
64 Nash, Ibid., Vol., vi, p. 251.
65 Jeffrey, Ibid., vol. ix, p. 207.
66 Haskins, London Jour. Med., Aug., 1852.
67 Shapter, Climate of South Devon, London, 1842.
68 Harrison, Rot in Sheep.
69 Ziemssen, op. cit.; Sanders, op. cit.; Farr, op. cit.
70 Ziemssen, op. cit.; Sanders—op. cit.— gives the proportion as .31 per 1,000.
71 Sanders, op. cit.; Hirsch, op. cit.; Larsé, Jour. de Méd., T. lxxxviii, p. 340; Germain, Ann. d'Hyg., July, 1850, p. 130; Bianchi, Jour. de Méd., T. lxvi, p. 171; Graullat, Hist. de la Soc. de Méd. de Paris, T. i, p. 192; Didelot, Ibid., T. ii, p. 136; Meyer, Méd. Topog. Ober-Ehnheim, Strassb., 1841; Lépine, Pneumonie, 1883, p. 21; Bonafos, Obsv. de Méd, T. ii, p. 62; Lucadou, Mal. les plus familiares à Rochefort, etc., Paris, 1787, p. 187; Grisolle, Traité de la Pneumonie, 1841; Laennec, Traité de l'Auscult. Mediate, Paris, 1819; et. al.
72 Matagrin, Gaz. Méd. de Lyon, 1858, No. 14; Raymond, Hist. de la Soc. de Méd. de Paris, T. ii, p. 19; et. al.
73 Ziemssen, op. cit.; Juergensen, op. cit., S. 12; Roux, Hist. Méd. de l'Armeé en Moreé, p. 84; Trebuchet, Ann. d'Hyg, T. xlvi, p. 20.
74 Gibbs, U. S. Naval Repts., 1881. p. 410.
75 Lavéran, Ann. d'Hyg., 1860.
76 Gibert, Quoted by Lépine, op. cit., p. 21.
77 Cabrol, Mém. de Méd. Mil., T. vi, p. 51.
78 Boudin, Geog. Méd., p. 85; Guthrie, London, Phys. and Med. Jour., Vol. lxiv, p. 187; Martinez, Topog. Méd. Malaga, 1852; Gregory, London Med. Gaz. Vol. ii, p. 78; Wallace, Edinb. Med. and Surg. Jour., Vol. xxxi, p. 76; Thiery, Obsd. de Méd., Paris, 1791; Faure, Souvenirs du Midi, etc.; Tulloch, op. cit.; Hennen, Med. Topog. Mediterranean, p. 498; Dickson. U. S. Naval Rpts., 1879, p. 533.
79 Penrose, U. S. Naval Reports, 1879, p. 578.
80 Sturges, Nat. Hist. Pneumonia, London, 1876, p. 161.
81 LaRoche, Pneumonia, Phila., 1854, p. 62; Hirsch, op. cit., S. 23; Mammi, Filiatr. Sebez., Nov. 1842; Guislain, Lettre Méd. sur l'Italie, Gand., 1840; Menis, Topog. Statist.-Med. della Provincin di Brescia, Bresc., 1837; Cerioli, Omodei Ann. Univ., 1820, Jan. 11; Hildebrand, Ann. Schol. Clin. Ticin., Pap., 1826, Vol. i, p. 119; Savio, Sulla Topog. Med. del Siccomario, Pav., 1846; Valentin, Voyage Méd. en Italie, Nancy, 1822, p. 141; Sturges, op. cit., p. 161; Frank, Prax. Med., Lib. ii, p. 315; Fox, op. cit.; Dickison, op. cit., p. 586; Carrière, Le Climat de l'Italie, Paris, 1849; Sanders, op. cit.; Mém. de l'Acad. de Méd., T. xiv, p. 230; Ann. d'Hyg., T. xxx, p. 58, T. xxxv, p. 5, T. xxxvi, p. 304.
82 Fox, op. cit., p. 154; Clark, On Climate, p. 121; Hirsch, op. cit., S. 23; Dickson, op. cit.; Tulloch, op. cit.; Vanucci, Bull. de l'Acad. de Méd., du 29 Mai, 1838; Morris, Voyage en Sardaigne, Paris, 1826; Cleghorn, Ep. Dis. in Minorica, London, 1762; Irvine, Obsv. Dis. Sicily, London, 1810.
83 See Landerer, Arch. de Pharmacie, 1851; LaRocoe, op. cit., p. 63; Hippocrates—De Morb., Lib. ii—considered it common in his day.
84 Cateloup, De la Pneumonie d'Afrique, Paris; 1853.
85 Sanders, op. cit.; Ziemssen, op. cit.

per cent. of the deaths.[86] It is especially prevalent in Algiers,[87] Chamounix,[88] Constantine,[89] Arabia,[90] Capeland,[91] South Africa,[92] Senegambia,[93] West Coast[94] and other places, whilst it is less prevalent or rare in Egypt,[95] Abyssinia,[96] Bone,[97] Morea,[98] environs of Sahara,[99] the Eastern Coast,[100] Madeira,[101] Mauritius,[102] Azore Islands,[103] St. Helena,[104] St. Domingo,[105], Martinique,[106] etc.

Asia.—Pneumonic fever is not common in most parts of this continent. It is rare in Hindostan,[107] except in the northern districts,[108] Burmah,[109] Pegu,[110] Ceylon,[111] the East India Islands,[112] Australia,[113] etc., whilst it is common in China,[114] Corea,[115] Japan,[116] the South Pacific Islands,[117] Van Diemen's Land,[118] New Caledonia,[119] New Zealand,[120] Gambier Island,[121] Sandwich Islands,[122] Riouw and Lingga Islands,[123] Nicobaren,[124] Tenesserim,[125] Kamschatka,[126] Siberia,[127] Persia,[128] Turkey,[129] Syria,[130] Armenia,[131] Donau,[132] and other places.

North America.—Here pneumonic fever was common amongst the Aztecs of Mexico[133] and the Indian tribes roaming over the United States and Canada in past centuries,[134] and continues to prevail extensively in every part of the continent.

Arctic Basin.—Pneumonic fever has been rarely met with in Arctic expeditions[135] or in the hunting stations of the far north,[136] save in Greenland, where it is common.[137] In Alaska and the neighboring islands it does not often appear, but, when it does so, is very destructive.[138] It is very prevalent in Lower Canada,[139] the Maritime Provinces,[140] Maine,[141] New Hampshire,[142] Vermont,[143] Massachusetts,[144] Northern New York,[145] New York City,[146] Brooklyn,[147] Hartford,[148] Philadelphia,[149] Cleveland,[150] Pittsburgh,[151] Petersburg,[152] District of Columbia,[153] Cincinnati,[154] Indiana,[155]

[86] Chamberlain, N. E. Med. Mon., 1883, p. 406.
[87] Laveran, op. cit., p. 28; Bertherand, Méd. et Hyg. des Arabes d'Algerie, Paris, 1855; Deleau, Rec. Mém. de Méd. Mil., T. iii, p. 115; Ziemssen, op. cit.; et. al. Some outhors have considered it uncommon. See Haspel, Mal. de l'Algerie, Paris, 1852; T. ii, p. 418; Finot, Rec. Mém. de Méd. Mil., T. lvi, p. 1; Cambay, Ibid., T. lvii, p. 1; Villette, Ibid., T. liii, p. 151; et al.
[88] Sturges, op. cit., p. 154
[89] Boudin, Geog. Méd., p. 80.
[90] Prunner, Krankheiten des Orients; Erlangen, 1847.
[91] Tulloch, Army Reports, 1840; Kretzschmar, Sudafrikanischen Skizzen, Leip., 1853; Schwarz, Zeitsch. d. Wien, Aerzte, 1858.
[92] Livingstone, Deutsche Klinik, 1858, Nr. 42.
[93] Thévenot, Traité des Mal. des Europ. dans les Pays Chauds, Paris, 1840; Raffenel, Voyage dans l'Afrique Occidentale, Paris, 1846; Berville, Mal. des Senegal, Paris, 1857.
[94] Moreira, Jour. de Scien. Med. de Lisbon, xv, 121; Boyle, Med.-Chir. Acct. Western Coast of Africa, London, 1831, p. 396; Daniell, Med. Topog. Gulf of Guinea, London, 1849; Ritchie, Edinb. Med. and Surg. Jour., 1852, April and June.
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[96] Courbon, Topog. Méd. Suez, Paris, 1861. p. 31; Aubert-Roche, Ann. d'Hyg., T. xxxiii, p. 21. Prunner, op. cit. It is here not so uncommon as in Egypt. See Hirsch, op. cit.
[97] Maillot, Int. Fiev., p. 114.
[98] Roux, Hist. Méd. l'Armeé en Morea.
[99] Hirsch, op. cit., S. 24.
[100] Sturges, op. cit., p. 154.
[101] Hoehling, U. S. Naval Reports, 1886, p. 12; Kampter, Hamburger Zeitschr. f. Med., Bd. xxxiv, S. 156; Gourlay, Nat. Hist. Maderia, London, 1811; Mittermaier, Maderia u. seine Bedeutung als Heilungsort, Heidelb., 1855.
[102] Lesson, Voyages, etc., p. 143: Couzier, Jour. de Méd., T. vii, p. 406; Allan, Edinb. Med. Jour., 1841, p. 560; Dutronleau, Mal. des Européens les Pays Chauds, Paris, 1861, p. 51.
[103] Hirsch, op. cit., S. 5.
[104] Tulloch, Army Reports, 1840; Hirsch, op. cit., S. 24.
[105] Despartes, Mal. de St. Domingo, T. i, p. 32.
[106] Grisolle, Traité de la Pneumonie, Paris, 1841, p. 132.
[107] Hunter, London Med. Gaz., 1847, Vol. i, p. 8, and 1850, Vol. ii, pp. 367–578; Fox, op. cit.; Moorehead, Dis. India, Vol. ii, p. 308; Twifling, Dis. Bengal, Calcutta, 1835, Vol. i; Sturges, op. cit., p. 154; LaRoche, op. cit., p. 63; Sanders, op. cit., p. 82; Gordon, Lon. Med. Times and Gazette, 1856, Vol. ii, p. 188; Henderson, Madras Quart. Med. Jour., Vol. iii, p. 328; Voigt, Bibl. f. Läger, 1833, Hft. iii, S. 36; Kinnis, Edinb. Med. and Surg. Jour., Vol. lxxvi, p. 256; Evans, Ibid., July, 1855; Webb, Path. India, London, 1848, p. 100; Don, Bombay Med. Trans., Vol. iii, p. 10.
[108] Eyre, Madras Jour. Med. Sci., Oct., 1860, p. 332; Dunbar, Ind. Jour. Med. and Phys. Sci., Vol. i, p. 443; Hunter, Bombay, Med. Trans., Vol. ii, p. 32; Young, Calcutta Med. Trans., Vol. iv, p, 36; Webb, Path. Ind., London, 1848, p. 100; Marston, Trans. Int. Med. Congress, Wash., 1887, see N. Y. Med. Record, Sept. 10, 1887, p. 320.
[109] Murchison, Edinb. Med. and Surg. Jour., Vol. lxxxii, p. 248; Dawson, Philadelphia, Med. Examiner, 1853, May.
[110] Stewart, Indian Annals Med. Sci., April, 1854, p. 432.
[111] Grisolle, op. cit., p. 130; Davy, Interior of Ceylon, p. 493; Marshall, Med. Topog. Ceylon, London, 1822, p. 39.
[112] Heymann, Krankh. d. Tropenländer, Würzb., 1855, S. 158; Lesson, Voyage Méd., etc., Paris, 1829, p. 97; Hattem, Nederl. Tijdschr. voor Geneesk., ii, 538; Sanders, op. cit., p, 82; Hirsch, op. cit.; Shaw, U. S. Naval Reports, 1879, p. 138; LaRoche, op. cit., p. 63.
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[114] Turner, U. S. Naval Reports, 1879, p. 292; Remy, Arch. Gen. de Méd., March, 1883; Hirsch, op. cit.. S. 24; Woods, U. S. Naval Reports, 1886, pp. 54–65; Wilson, Med. Notes on China, Loud., 1846, p. 50; Hobson, London Med. Times and Gaz., Nov., 1860, p. 478, and December, p. 632; Armand, Gaz. Méd. de Paris, 1861, p. 201.
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[116] Woods, op. cit., pp. 54–65.
[117] Wilkes, U. S. Explor. Expedition, Vol. iii, p. 32.
[118] Dempster, Calcutta Med. Trans., Vol. vii, p. 357; Hirsch, op. cit., S. 24.
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[121] Lesson, Voyage aux Isles Mangareva, Rochefort, 1845.
[122] Chamberlain, op. cit.; Chapin, Am. Jour. Med. Sci., May, 1837; Häolé, Notes on Sandwich Islands, London, 1854; Gulick, N. Y. Jour. Med., March, 1855; Hirsch, op. cit., S. 24.
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[124] Steen-Bills Reise d. Corvette Galatea um die Welt, Leipzig, 1852, Bd. i, S. 244.
[125] Ward and Grant, Med. Topog, Malacca, 1830.
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[128] Polack, Wiener Med. Wochenschr., 1854, Nr. 48, 1855, Nr. 17.
[129] Rigler, Die Türkey u. deren Bewohner, Wien, 1852, Bd. ii, S. 220; Beyran, Gaz. Méd. de Paris, 1854, p. 343.
[130] Prunner, Krankh. d. Orients, Erlangen, 1847, S. 283; Robertson, Edinb. Med. and Surg. Jour., Vol. lix, p. 247; Tobler, Topog. Jerusalem, Breslau, 1855, S. 36.
[131] Wagner, Reise nach dem Arrarat, Stutt., 1848.
[132] Schmalz, Deutsche Klinik, 1852, Nr. 39.
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[134] Rush, Hist. Med. among the Indians, London, 1789, p. 20.
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[137] Cranz, Hist. von Grünland, Barby, 1770; Hirsch, op. cit,, S. 25.
[138] Wythe, Pacific Med. and Surg. Jour., 1871; Rosse, op. cit., pp. 18–23; Personal Com. from Gen. Scribner. Brooke, speaking of the execrable climate, says that "it might naturally be supposed that in such a climate . . acute pulmonary inflammations would be very common; but such is not the case." Quoted by Rosse, op. cit., p. 17.
[139] McCord, Am. Jour. Sci., Vol. iii; Report Health Officer Montreal, 1887; Tulloch, op. cit.; Drake, Dis. Int. Valley, Vol. i.
[140] Tulloch, op. cit., 1853.
[141] Report State Board Health, 1885; Witherspoon, in Coolidge's Statistical Rpt. U. S. Army, Washington, 1856, pp. 27–29.
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[147] Board of Health Report, 1878.
[148] Board of Health Report, 1887; Report State Bd. Health of Connecticut, 1885.
[149] Registration Report for 1876.
[150] Report Board of Health. 1878–87.
[151] Reports Board of Health, 1880–1–2–3–4–5–6–7.
[152] Report Board of Health, 1879.
[153] Reports Board of Health, 1878–80–82.
[154] Report Board of Health, 1886; Drake, op. cit.
[155] Rpts. Bd. Health, 1884–85–86; U. S. Census Report, 1880.

Missouri,[156] St. Louis,[157] Memphis,[158] Arkansas,[159] Kansas,[160] Louisiana,[161] Texas,[162] New Orleans,[163] Mississippi,[164] Savannah,[165] Selma,[166] Knoxville,[167] Tennessee,[168] Alabama,[169] Charleston,[170] Columbia[171] Richmond,[172] Illinois,[173] New Mexico,[174] Colorado,[175] Denver,[176] Utah,[177] Nevada,[178] San Francisco,[179] etc.,[180] whilst it is less common in Boston,[181] New Haven,[182] Connecticut,[183] New Jersey,[184] Maryland,[185] Baltimore,[186] Virginia,[187] Georgia,[188] South Carolina,[189] North Carolina,[190] Delaware,[191] Pennsylvania,[192] Rhode Island,[193] Providence,[194] Southern New York,[195] Rochester,[196] Kentucky,[197] Ohio,[198] Chicago,[199] Milwaukee,[200] Wisconsin,[201] Michigan,[202] Minnesota,[203] St. Paul,[204] Nebraska,[205] Dakota,[206] Montana,[207] Wyoming,[208] Iowa,[209] Idaho,[210] Washington,[211] Oregon,[212] California,[213] Arizona,[214] West Virginia,[215] San Antonio,[216] Florida,[217] Ontario,[218] and other places.

156 U. S. Census Report, 1880.
157 Report Board Health, 1884–85-86.
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159 U. S. Census Report, 1880; Sanders, op. cit., p. 82.
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179 Report Board Health, 1878–81.
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200 Report Board Health, 1878.
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202 U. S. Census Reports, 1880.
203 Reports State Board Health, 1879; U. S. Census Rpts., 1880.
204 Board Health Reports, 1886-7.
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208 U. S. Census Reports, 1880.
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216 Report Board Health, 1887.
217 U. S. Census Report, 1880.
218 Registration Reports, 1883-84-85.

The high plateaus of Mexico afford a large amount of pneumonic fever,[219] and even the Gulf coast is considerably afflicted.[220] It is rare on the west coast.

Pneumonic fever is comparatively rare in Central America,[221] Bermuda,[222] Jamaica,[223] Cuba,[224] the Antilles,[225] St. Domingo,[226] Trinidad,[227] and the other West Indian Islands.[228]

South America.—On this continent pneumonic fever is responsible for an annual death-rate of 1.61 per 1,000 of population, and 5.8 per cent. of all deaths.[229] It is rare in Panama,[230] the Marañon Valley,[231] and a few other places, but it is common in Ecuador,[232] Guianna,[233] Brazil,[234] Peru,[235] Buenos Ayres,[236] Chili[237] and other parts.[238]

219 Fox, op. cit., p. 154; Newton, Med. Topog. City of Mexico, N. Y., 1848; Müller, Deutsche Klinik, 1857; Hammond, in Coolidge's Reports, p. 419; Mexicanische Zustände, Stuttg., 1837, Bd. i, S. 21; Naphegyi, N. Y. Jour. Med., May, 1855.
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223 Hunter, Bemerk ü. des Krankh. d. Truppen auf Jamaica, Leipzig, 1792, S. 222; Tulloch, op. cit.
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225 Tulloch, op. cit., 1838; Hunter, op. cit; Rufz, Mém. de l'Acad. de Méd., T. x; Dutroulau, Traité, etc., Paris, 1861, p. 35; Despartes, Mal. de St. Dominique, Paris, 1770. T. i, p. 32.
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238 Stephenson, U. S. Naval Reports, 1881, p. 269.

REPORTS FROM HOSPITALS.

SURGICAL CLINICS AT THE WESTERN PENNSYLVANIA HOSPITAL BEFORE THE STUDENTS OF THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

BY PROFESSOR J. B. MURDOCH,

SURGEON TO THE WESTERN PENNSYLVANIA HOSPITAL AND PROFESSOR OF CLINICAL SURGERY IN THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

[Reported by WILL. N. PRINGLE, M.D., a member of the Graduating Class.]

September 29, 1888.

EXCISION OF KNEE-JOINT.

Patient, æt. 47, male, and by occupation a coal miner, has always enjoyed good health and is at present in robust condition. His parents were healthy; his father died at the age of 56 years,

and his mother is still living. Three years ago, while at his work in the mines at Mansfield, a fall of coal caught his knee, crushing it slightly, but not severely, as he kept on at his work for a month, at which time, however, his knee began to trouble him so much he was compelled to take to his bed, which he kept for three days, when he again resumed work, but only for a short time, when he was again compelled to go to bed for a few days; and so he has alternately worked and lain in bed for the past three years, until within a short time, when he became unable to work or even to stand on his leg. Upon examination I find that the mischief has so involved the joint that the articulating surfaces, cartilages, ligaments and the joint generally, has become so thoroughly disorganized as to require a surgical operation. There are two operations we may do for this man, namely: amputation of the limb or excision of the joint. The latter is a substitute for the former, and is resorted to in disease, injury and deformity of joints; and where it is applicable the mortality following it should govern us largely in attempting it. A few years ago good surgeons had almost abandoned it, so great had been the mortality following it.

Of 57 cases recorded during the late war, 44 died, 10 recovered, and 3 are unaccounted for; but since the advent of antiseptic treatment of wounds results have changed materially. I have done five excisions in the past three years, with but one death, that of a delicate child, while my friend Prof. King has done five excisions in the same length of time with no deaths. The object in view in excision of the knee-joint is different from that in the elbow, shoulder, wrist, hip, ankle or almost any other joint. In almost every other joint, we hope to get motion after excision, in the knee we do not; in fact, we make every effort to get a stiff joint, we endeavor to destroy the joint as a joint, and to that end we fix the bones solidly together with nails, destroy the synovial pouch and membranes, and hope thereby to get strength at the expense of motion.

In doing this operation we will make an incision extending from opposite the external condyle of the femur, across the centre of the patella to opposite the internal condyle of the femur, about three-fourths of the circumference of the limb, and carry the incision deeply through all the tissues down to the ligaments; we then dissect up the skin, flex the limb and remove the patella, and all the diseased tissue surrounding the joint. After this we saw a thin piece off the end of the femur and a thin piece off the end of the tibia, taking care not to remove the entire epiphysis in any case. As the normal leg is not straight, it shall be our endeavor to remove the ends of the tibia and femur in such a line to the axis of the leg, that when the two sawed surfaces are brought into position the natural bend of the leg shall be maintained. After the nails are put in place and the drill removed, a tap or two on the head of each nail with the mallet serves to fasten them up and to draw the two surfaces into closer apposition. In addition to the nails a posterior splint will be put on, also a plaster dressing will be put on over the whole; all of which will help hold the joint immovable. Several drainage tubes having been put in, small fenestra will be cut in the plaster dressing in order that the tubes may be removed without disturbing the limb, which will be done in about one week. The dressing will not be removed for about two weeks unless pain or rise in temperature indicate that all is not doing well. The nails will be withdrawn in about three weeks, and if all goes well this man should be able to move about on crutches in about four weeks.

October 27, 1888.

We will show you first, to-day, the man on whom we excised the knee-joint just four weeks ago. You see that he is able to walk about on crutches, and you will also notice that he looks much better, physically, than he did on the day of the operation. One week ago I removed the nails, and failed to find one drop of pus in the wound, or in the track of the nails. You also see when I manipulate the limb, that the joint is firmly anchylosed, showing that complete bony union has taken place. Now, that is just the result we sought to obtain, and it is the result we have a right to expect if our operation has been properly done, and our antiseptic precautions have been properly observed. This man has been thoroughly incapacitated for work for four years, and now he has the pleasure of knowing that he will soon be able to resume his occupation, with a considerable degree of satisfaction. He is 47 years old, an age at which we should scarcely expect as favorable results as we have been able to obtain in this case. On the evening of the day of the operation, his temperature went up to 101.6°, but since that time has remained below that, much of the time being normal.

October 13, 1888.

FRACTURE OF THE SKULL.

Through the courtesy of Dr. Hyatt we are enabled to show you the case of a young man, who one week ago sustained a severe fracture of the skull. This man is 25 years old, and works in a machine shop. One week ago, while at his work, he was struck by a falling beam, receiving, as you see, this extensive stellate fracture of the skull, just over the left parietal bone. And extensive as this wound is, and considering the fact that pieces of bone were driven down into the substance of the brain, this man walked down three flights of stairs, rode to the hospital in an ambulance, and got out and walked into the ward without for a moment losing consciousness.

This fact will serve to teach you that men may receive very extensive fractures of the skull, and still retain consciousness. After this accident, Dr. Hyatt trephined the skull, removing the detached portions of bone, and elevating the depressed portions, observing through all his manipulations strict antiseptic precautions; and to-day his chart shows a temperature of 99.6°, and at no time did it exceed 99.8°. Now, this would be almost an impossible state of affairs under any other than antiseptic treatment. Under the old forms of treatment of injuries like this, we would, in all probability, by this time have this patient in an aggravated form of septic fever.

We will now remove the dressings in order to get at the drainage tube, which has now served its purpose and will be removed. This will be done as strictly antiseptically as the original operation. The skull is an exceedingly difficult location on which to do antiseptic surgery, on account of the hair, which gets very filthy. When you want to do a clean operation on the skull always shave the hair off close to the skin. Heretofore not a little trouble has been experienced in elevating the internal table of the skull, on account of its friability and proneness to break down under instruments, but my friend Prof. Brazier, of Wooster University, has invented an instrument which overcomes this difficulty. He has promised to send me one of them, which, when he does so, will be exhibited to you. The opening left here by the trephine will not be closed by a silver or glass plate, as so many people think, but will be left to nature to close, and which she will close; not by bone, but by a thick, fibrous membrane, leaving a soft spot, which will always remain over the site of the wound. In a case of this kind, not much can be done by medication. I, however, always give a cathartic, a brisk, hydragogue cathartic, which partly takes the place of the old style of bleeding. This young man has had this.

FRACTURE OF THE PATELLA.

We have here another patient, one who has a fracture of the patella. A few days ago, while trying to board a moving train, he was thrown violently against an upright signal pole, and has sustained a transverse fracture of the patella, which is a rare occurrence. Fractures of the patella may be caused by direct violence, and by muscular action, and when it is caused by direct violence, it is almost always in an oblique, vertical or stellate fracture. When it is fractured in a transverse direction, it is almost always done by muscular action, as when a person is about to fall, or be thrown down, in his violent effort to prevent his falling, and when his knee is in a semiflexed position, his patella is fractured in a transverse direction, by the violent contractions of the strong muscles of his thigh opposed by the ligamentum patella below, much the same as you would break a stick by pulling it over your knee with a hand on either end. But in this case you see a transverse fracture caused by direct violence. This is merely an exception to the rule. This is also a complete fracture, the parts being separated from 1½ to 2 inches, and as you see, the limb is very much swollen or puffed up by the accumulation of fluid in the joint. Now, it is very desirable that this fluid should be disposed of before we try to bring the parts together, and in order to do this, some surgeons recommend the aspirator. In this case, however, we will try milder means. First we will place a bladder filled with broken ice about the joint, and follow this with a couple of large blisters, and if this do not effect the desired result, the aspirator will then be used. Now, there are two ways of bringing the fractured ends of the patella together: first by plasters, one strip being passed around below the lower part, and strongly drawn upward and made to adhere to the skin of the thigh above the knee; another strip is passed around the upper fragment and strongly drawn down, and made to adhere below the knee. The limb must lay on its posterior aspect, and perfectly relaxed, and then, by manipulations and flexing the thigh upon the pelvis and extending the leg, the fractured ends may be brought very nearly into approximation; always remembering, however, that the upper part must be drawn down, and that the lower part cannot be drawn up, as the ligamentum patella is not elastic. The other way of reducing this fracture is to cut down on to the bone, freshen the two fractured surfaces, pass strong wires through each, draw them together, twist the wires, and so retain them in apposition until union takes place. This latter process is attended by so much danger that it is not often resorted to. Patients have lost their lives as a result of it, and many have suffered amputation. In either of these operations we can hardly hope for bony union; some surgeons claim to get bony union in favorable cases, but it has been claimed by just as good authority that bony union never takes place in these cases. The fibrous union which we do get, however, is as good for all practical purposes as bony union would be, while some claim that it is better than bony union would be, if we did get it, as the patella will never break again at the same place after fibrous union has taken place.

THE ROYAL COLLEGE OF SURGEONS AND ITS MEMBERS.—At a meeting of the Birmingham and Midland Counties Branch of the British Medical Association, the following resolution was, after an animated discussion, adopted: "That this Branch sympathizes with the desire of the Royal College of Surgeons of England to take part in the management of affairs of the College."

MEDICAL PROGRESS.

REGARDING THE RESEMBLANCE OF THE MALARIA-PARASITE TO THOSE OF FEBRIS RECURRENS.—N. A. SACHAROFF, in a preliminary communication in *Wratsch.*, 1889, No. 1 (Russian), states that there exists in the blood of patients suffering from febris recurrens a hæmatazoon which may be best observed immediately after the temperature begins to fall, and which then assumes enormous proportions (20 and more diameters of a red blood-corpuscle). But specimens of lesser size are also found. The parasite consists of a delicate amœboid body containing a multitude of dark, round, uniform, sharply-outlined movable granules. Besides these the protoplasma contains a generally grayish, homogeneous nucleus as large as one or two red blood-corpuscles. The protoplasma sends forth pseudopodia (without granules) which sometimes separate from it and appear as small, delicate pieces of protoplasma without granules. They vary in size and are often swallowed by red blood-corpuscles in which they gradually grow and finally develop into the above-mentioned large amœboid body.

In a detailed description contained in the Minutes of the Session of the Caucas. Med. Society, in Tiflis, 1888, No. 11, Sacharoff designates the large protoplasma-lumps described by Ponfik, Ref. L. Heydenreich (Wilna), as his parasite: Hæmatazoon Febridis recurrens. He declares that the granules in the protoplasma which Ponfik took for granules of fat are mostly pigment, not fat. From time to time the protoplasma itself sends forth pseudopodia, in which no granules are to be found; these pseudopodia fall off and circulate freely in the blood. By separating from the protoplasma, however, the parasites become smaller, until finally only the nucleus and a narrow zone of protoplasma containing granules remains. The nucleus itself is round, delicate, grayish, also reddish, and Sacharoff thinks that it is merely a red blood-corpuscle. The nucleus sends forth pseudopodia, or buds, which separate from it and also circulate freely. Sacharoff watched such separated speusodia and noticed successive changes in them, *i. e.*, he saw spirochactæ-shaped threads form from nucleus-pieces within from 8 to 10 hours. They did not show any small undulations and were not very thin, but large undulations were distinctly visible. He thinks this is possibly the genesis of spirochactæ. Nor do the lumps separating from the protoplasma remain without further development. They have a motion of their own, attach themselves to red blood-corpuscles, send buds into them and finally are completely enveloped by them. Here they may assume various shapes and may grow larger and gain granules of pigment in the protoplasma. They distend also the blood-corpuscle containing them, and seem to be able to cause its disappearance. On the other hand they can emigrate with equal facility from the blood corpuscle. Then the parasite becomes free and continues to grow, or decomposes as was shown above. Immediately after the crisis the three first-named forms exist in large numbers, further on during apyrexia principally or exclusively the intracellular forms are to be found. This in the main difference between it and the plasmodium malarial where the intracellular forms are found only during the fever.

This report is very important and it opens new points in the etiology of this disease. If the highly interesting discoveries of Sacharoff should be confirmed, we should have reliable means for the diagnosis of the disease during apyrexia as the intracellular forms, which can be stained with methyl blue (at least in intermittens), are easily seen. In uncolored specimens they are hard to see. The same peculiarity might then be utilized as a means of differential diagnosis from intermittents, with which febris recurrens is easily confounded.—*Centralblatt für Bakteriologie und Parasitenkunde*, Band v, No. 12.

SEMMOLA ON THE CURABILITY OF INTERSTITIAL HEPATITIS.—In a lecture on therapeutics at the University of Naples (*Il Progresso Medico*, January 15, 1889) PROFESSOR SEMMOLA exclaims strongly against the exaggerated importance which is attached to the anatomical basis of disease. He points out that the common error of associating the morbid anatomy found post-mortem in the last, and probably incurable, stage of disease with the symptoms of an earlier, and possibly curable, stage, as met with at the bedside, discourages therapeutic efforts, and leads directly to pessimist views.

So, in speaking of the curability of interstitial hepatitis, he does not refer to the atrophic stage, which is the one most commonly met with in the post-mortem room, and which is, as it were, the dregs of the disease; but to an earlier condition, when the liver is large, and the new tissue has not yet become hard, contracted, and fibrous.

Professor Semmola suggested the possibility of the curability of interstitial hepatitis in a lecture so far back as 1869. And at the International Medical Congress at Amsterdam in 1879, he details a series of cases in support of that view. More recently Dr. Millard has advocated the same proposition in *Le Progrès Médical*, and has published a series of cases in which he considers that interstitial hepatitis has been cured. Professor Semmola in his present lecture relates several further cases, but he appears to make no distinction between those of malarial origin and those due to syphilis or alcohol. It is quite possible that the former may be more readily curable than either of the latter.

It would also appear that sufficient account is not given to the establishment of a collateral circulation in the very numerous ways in which it is known to occur, and to the consequent disappearance of ascites and other symptoms, the interstitial hepatitis remaining unaltered. The reporter well remembers a middle-aged man who was tapped two or three times for very copious ascites, and whose liver was so hard and irregular that several of those who saw him thought he had malignant disease, but who lost his ascites completely and recovered sufficiently to resume his work as a railway navvy. It was difficult to attribute the result to anything but the establishment of a collateral circulation.

The principle of Professor Semmola's treatment is the rigid restriction to a milk diet. He argues that a more solid dietary, and especially meat, increases the hepatic irritation, and exaggerates the disease.—*London Medical Recorder*, March 20, 1889.

ON THE ORIGIN OF HOMOGENEOUS CASTS AND CYLINDROIDS IN THE URINE.—TORÖK and POLLACK have sought to discover the origin of homogeneous casts by clinical and pathologico-anatomical observations, as well as by histological and chemical investigations, and experiments on animals. By the results thus obtained, they join the partisans of the transudation theory, according to which homogeneous casts originate from the coagulation of an albuminous substance transuded into the renal channels directly from the blood. They consider their formation from cells or from derivatives of cells as out of the question. As chief supports for their views they cite the shape of the casts and cylindroids, and the observations which prove that these formations occur in simple disturbances of circulation, when renal epithelium is wholly normal or but slightly changed. Besides, they are formed so quickly in the kidney and in the urine that a homogeneous metamorphosis of the epithelium, or the formation and blending of vacuoli, would be impossible. The origin of cylindroids is twofold: one portion originates from the kidneys, another forms extrarenally from the secretions of the prostate, of Cowper's and Littre's glands, of the mucous glands of the bladder, of the uterus and the cervix, and differ from renal cylindroids, which they resemble morphologically, only in their insolubility in acetic acid. Against the formation of cylindroids from cells or vacuoli speaks also the circumstance that they are found alongside of almost normal epithelium and never show cross-stripes (the boundary-lines of the cells and vacuoli not yet blended). Furthermore, cylindroids occur frequently in urine, whilst vacuoli are very rare in fresh urine and in the urinary channels. Casts and cylindroids form where the quantity of the transudation is sufficient to fill completely the lumen of the urinary channels and where it is of sufficient rigidity. Experiments especially seemed to prove the opposite. The authors regard the vacuoli, which most people think secretion products from the kidney epithelium, as cells which degenerated and subsequently swelled by absorbing liquid.

The homogeneous cast-substance plays an important part also in the formation of cell and granular casts. Concerning the question how this substance transudes, the authors believe that transudation goes on not only in the glomeruli, but also in the urinary channels. They are unable to say whether the kidney epithelium takes part in the formation of homogeneous casts or not. They likewise refrain from expressing an opinion on the factors causing coagulation, and merely mention the hypotheses advanced on this point.—*Centralblatt für Klinische Medicin*, 1889, No. 12.

THE LEUCOMAINES IN THE NORMAL BLOOD.—Under this title MR. R. WURG explains the results of careful investigations made at the instigation of Mr. A. Gautier, which have had a bearing on the question of alkaloids in the normal blood. The experiments which were made on 100 litres of ox-blood have led to the following conclusions: Normal ox-blood contains, besides the well-known bases isolated long ago, creatine, xanthine, hypoxanthine, a certain number of leucomaines, fixed or volatile, in a proportion not exceeding 3 gms. in 100 litres. The greater part of these bases were isolated in quantities too small to allow of an analysis. The form of their salts and their physiological properties are characteristic for each. Only two have been analyzed: one of them, which is volatile, is methylamine; the other, for which the name of "plasmaine" has been proposed, is fixed; its formula is $C_5H_{15}Az_5$. The physiological action of this base is but slight, like that of most muscle leucomaines and of adenine, despite its being isomeric with hydrocyanic acid. The other bases likewise have no or but slight toxic qualities. The most poisonous among them kills a frog of average weight (15 gr.) in a dose of 2 to 3 milligrams, in about one hour. The symptoms generally observed were a slowing of the heart and of the respiration, and an increase in the sensitiveness of the muscles. In Guinea pigs no physiological effects could be observed. The elimination of these fixed bases occurs probably through the kidneys, whilst methylamine is eliminated by the lungs. Although the proportion of these leucomaines in the normal blood is very small, their presence is nevertheless of interest, in the matter of the elimination of nitrogen.—*Les Nouveaux Remèdes*, Vol. v, No. 6.

A CASE OF FATAL TETANUS DURING ENLARGEMENT OF THE STOMACH.—MR. BEURMANN has had opportunity to observe a case in which a pa-

tient died within a few hours from tetanus which extended to the respiratory muscles. This patient had been suffering for a long time with a considerable enlargement of the stomach, and had passed, a few days before, through another crisis characterized by vertigo, torpor, and a pricking sensation in the limbs. These symptoms, which introduced the fatal crisis, are very common in enlargement of the stomach, and should immediately attract the physician's attention.

Analogous cases are not rare; there are no less than fifteen known to medical science. The first one was published by Kussmaul. Of these fifteen cases eight were followed by death. This justifies the presumption that tetanus originating in the stomach is extremely dangerous. Its extreme gravity, as also its tendency to affect the respiratory muscles, prevents its being taken for common tetanus. Apropos of the latter, it ought no longer to be considered an entity, but rather as a complication which may occur under various conditions and circumstances.

As regards the pathogeny of the spasm in enlargement of the stomach, several theories have been advanced. According to Kussmaul, it is due to a concentration of the blood; according to other authors it is of reflex origin; M. Bouchard ascribes it to a self-intoxication. I favor this last view, although I have had no opportunity as yet to verify it. Mr. Hayem observed a case of enlargement of the stomach in which two successive attacks of spasms occurred. The patient died subsequently from a sort of cholera morbus. Mr. Hayem thinks it possible that the fatal cases mentioned by Beurmann resulted from a displacement of the viscera.—*La Semaine Médicale*, Vol. ix, No. 13.

Etiology and Origin of Acute Peritonitis.—Privat-docent A. D. Pawlowski, of St. Petersburgh, has made, in the laboratories of J. Rosenbach, Göttingen, and of Pasteur, Paris, a number of experiments, with the following results:

The first series of experiments with the injection of chemical substances into the peritoneum showed that the different substances (croton oil, trypsin, cold filtrates of pathogenic microbes) produce an aseptic hæmorrhagic peritonitis, with the exception of the cold filtrates of erysipelas cocci which was without reaction.

The second series with microbes showed that even large quantities of non-pathogenic microbes do not affect the peritoneum, whilst a small number of pathogenic microbes, among them the staphyloccus aureus, produces fatal acute peritonitis in rabbits, and the longer the animals lived the more evident became the purulent character of the inflammation. The bacillus pyo-cyaneus, which is considered harmless by many, proved pathogenic when injected into the peritoneum.

In the third series of experiments with unfiltered, filtered and sterilized digestive secretions, it appeared that only the first produced peritonitis which is caused by especially short bacilli isolated in pure cultures.

The fourth series of experiments showed that indifferent foreign bodies which can envelop and retain microbes, as also irritated or inflamed conditions of the peritoneum favor, under the influence of chemical substances, the development of acute peritonitis.—*Internationale Klinische Rundschau*, March 17, 1889.

Therapy of Basedow's Disease.—Professor Eulenburg, of Berlin, speaking on the therapy of this disease, considers it best to place patients in a sanitarium for nervous diseases. Often the most brilliant results are obtained, even in far advanced cases, in establishments and sanitariums located in high altitudes. Even the worst complications with organic heart-disease, valve troubles, incompensation, do not present an absolute contra-indication to a sojourn in high altitudes as is generally supposed. In some cases few such altitudes are not well borne, rapid circulation, difficulty in respiration, etc., ensuing. In these cases lower altitudes and sub-alpine climates are preferable.

This climatological treatment is aided by the simultaneous use of balneo-therapeutic, diatetic, and electro-therapeutic measures. Regarding the first Eulenburg recommends the lighter forms of cold-water treatment and carbonic-acid baths, and lukewarm carbonic-acid and brine baths of a short duration on the other.

As concerns the diatetic measures the Playfair or Weir-Mitchell cure, milk and kumyss cures should be used as in other neurasthenias (for as such Eulenburg regards Basedow's disease).

As to electricity, a mode of treatment especially developed by Eulenburg, hydro-electric baths are to be used. Eulenburg prefers monopolar cathode baths. With this general electrization a local application of electricity may be combined, either after the method of Romain Vigouroux, or after the method of Eulenburg, who in many reccent cases tension—or rather influence—electricity, especially in the form of franklinization on the head (head douche) and the positive point current directed upon the heart. (*Berl. Klin. Wochenscrhrift*, No. 2 and 3, 1889.) — *Internat. Klin. Rundsch.*

On the Indications for Laparotomy in Acute Processes.—Gersung, in the *Wiener Med. Presse*, 1888, No. 46, collects all those cases under the name of "acute," in which danger of a suddenly fatal termination compels the physician to decide immediately whether a laparotomy should be made, or whether other remedies are to be used which place less responsibility upon the

physician, and endeavors to decide at what moment safety can be expected only from operation, or how long it may be deferred without depriving the patient of this last possibility of a cure.

Laparotomy should be performed for injuries to large vessels or to organs of the abdominal cavity containing many blood-vessels; traumatic, or in very rare cases spontaneous rupture of liver or spleen; rupture of the fœtal sac in tubular pregnancy; dangerous vomiting of blood, and perhaps also a bleeding carcinoma of the stomach. As to peritonitis laparotomy is of value chiefly as a preventive operation; in general peritonitis already existing the prospect of success is very limited.

Laparotomy is indicated whenever the abdominal cavity is opened in order to prevent septic processes, and in perforation (also traumatic) of intestines, rupture of an abscess and flow of pus into the peritoneal cavity, rupture of the bladder, impacted gall-stones, obstructions in the intestines, whether caused by invagination or valvulus, by strictures resulting from scars or new formations, by obstruction from an internal hernia, or by foreign bodies that entered into the intestinal channel from outside, or by a gall-stone remaining in the intestine, by sloughing of a portion of an intestine as a result of inflammatory processes, or by inherited malformation.—*Centralblatt für Gynækology*, 1889, No. 12.

SULFONAL FOR NIGHT-SWEATS.—Although the number of remedies recommended for night-sweats is very large, it may not be amiss to give some information regarding a new cure: Sulfonal, the soporific recently so warmly recommended. Bättrich's attention was first attracted to the subject by the case of a lady 80 years old, to whom he had administered only ¼ gram as a soporific. The lady had been suffering with night sweats so profuse that her clothes were changed twice every night. After taking this powder, she asked him whether he had mixed anything for those sweats in it. Further experiments showed that in most cases night-sweats could be prevented by ½ gm. of sulfonal. He considered the effect of sulfonal to that of atropin, but it is wholly free from unfavorable side-effects. Moreover its effect is lasting, the sweats of the second night being much less profuse without sulfonal.—*Therapeutische Monatshefte*, March, 1889.

PICROTOXIN, AN ANTIDOTE OF MORPHIUM.—PROFESSOR ARPÁD BÓKAI, of Klausenburg, considers picrotoxin the most rational antidote for morphium. The two substances act in opposite ways upon the respiration-centre of the medulla oblongata, morphium paralyzing it whilst picrotoxin increases its activity. In cases of poisoning by morphium, picrotoxin is actually life-preserving, as it checks the paralysis of respiration and prevents the decrease of the blood-pressure by strong irritation of the vasomotor centre, producing vascular contraction. The opposite effects of the two substances upon the cerebrum is of no importance in poisoning. It must be remembered that the only antidote for morphium known so far—atropin—cannot be given in large doses. Bókai is of the opinion that picrotoxin could be used also as a prophylactic in chloroform-narcosis, to prevent asphyxiation. He promises further reports on the subject.—*Therapeutische Monatshefte*, March, 1889.

REGARDING A NEW BLOOD TEST IN COAL-GAS POISONING.—K. KATAGAMA says this test consists of the addition to blood containing coal-gas of orange-colored ammonium sulphide and acetic acid, which produces a beautiful light-red color, whilst normal blood turns greenish-gray or reddish or greenish-gray. The test may be best made as follows: Dilute 1 ccm. of the blood to be tested with 50 ccm. of water, pour 10 ccm. of this into a test-tube, and add first 0.2 ccm. of orange-colored ammonium sulphide and 0.2–0.3 ccm. of 30 per cent. acetic acid, and turn the test-tube upside down two or three times. Blood impregnated with illuminating gas diluted from 1:5 to 1:7 showed distinctly the characteristic color with the test reagents, whilst the spectroscope proved ineffective with a dilution of 1:4, and Hoppe-Seyler's soda test with a dilution of 1:5. *Centralblatt für Klinische Medicin*, 1889, No. 12.

CAMPHORATED NAPHTHOL.—This mixture is composed of one part of naphthol and two parts of camphor, triturated together *dry*. Désesquelles discovered that naphthol liquefies in camphor, and M. Bouchard has shown the considerable antiseptic power of naphthol, and its great advantage of being non-toxic. He advises the use of camphorated naphthol as a topical antiseptic, having used it with success in many cases of excoriations, wounds, and ulcerations, and in diphtheria as an application to the throat.—*Journal de Médicine de Paris*, No. 7, 1889.

PERNICIOUS VOMITING WITH AND WITHOUT PREGNANCY.—DR. LEVY, in a treatise published by Heuser, Berlin, describes in detail a case of continual vomiting during pregnancy, and reviews a number of other authors on the ætiology and therapeutics of the subject. In the case mentioned the vomiting was a result of anæmia of the brain and ceased after proper treatment of the latter trouble. Another patient was not pregnant; the vomiting originated in a uterine disease, and ceased after the latter was cured.—*Correspondenz-Blatt für Schweizer Aerzte*, March 15, 1889.

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SATURDAY, APRIL 27, 1889.

LEGISLATIVE BODIES AND SCHOOLS OF MEDICINE.

The various Bills or propositions brought before the Legislatures of many of the States, intended for regulating the practice of medicine, form a curious variety and strikingly illustrate the vagaries that still possess the popular mind concerning the nature and extent of medical science and art. A large part of these vagaries arise from the erroneous use of the phrase "Schools of Medicine," and the remainder originate from the confusion of ideas about personal rights. In past centuries, before the natural sciences had been developed into well-defined departments of science founded on carefully observed facts, analyzed and classified; before chemistry had enabled its votaries to resolve almost all bodies into their elementary constituents and determine the relations of each to every other; and before the scalpel of the anatomist had separated the various structures of the human body from each other and enabled the physiologist to study the relations and uses of every part, human knowledge consisted in part of empirical rules concerning the affairs of everyday life and labor, and in much greater part of fanciful theories and speculative dogmas under the name of *philosophy*. In those times each master mind with more boldness and skill in inventing hypotheses and plausible theories than the common mass, drew around him admiring followers, and he became the founder of a sect or so-called school of philosophy. Hence history informs us of the Schools of Aristotle, of Plato, etc., with their parallels in medicine, as the School of Hippocrates, of Galen, of Cullen, of Boerhaave, of Darwin and Brown; or the School of the humoralists and the School of the solidists. It was thus that the phrases, Schools of Philosophy and Schools of Medicine, used to designate the theoretical dogmas of some bold and skilful leader of human thought, became incorporated into all departments of literature and have been handed down to our time. But with the development of chemistry, organic and inorganic, analyzing and recombining all the materials within human reach, came also the discovery and application of physical laws and forces to the advancement of all the arts and industries of man. Of necessity, the observation, collation and classification of facts, aided by experiments, rapidly superseded and rendered obsolete the dreams and speculative dogmas that had constituted the "Schools of Philosophy" of the past ages, and gave instead our present scientific knowledge of the vegetable and animal kingdoms of nature, and of the inorganic matter with the laws and forces that govern it, under the comprehensive word physics. Under the same influences and in the same parallels of time medicine underwent the same changes. The practical study of human anatomy, the analytical study of all its parts, the discovery of the circulation of the blood, the complex functions of the nervous system, the chemical changes in digestion, assimilation and nutrition, and the counter-changes in disintegration and elimination, soon rendered every previous so-called "School of Medicine" obsolete, by giving us in their place the well developed sciences of anatomy, physiology, and organic chemistry. A knowledge of these branches quickly compelled the recognition of the fact that diseases or morbid actions were only deviations in some direction from the natural functions or structures, and hence the sciences of pathology and therapeutics followed, and with them, *pari passu*, the arts of surgery, practical medicine, and hygiene or sanitation, became as truly departments of science as are physics, botany, natural history and geology. Therefore it is as absurd, at this day, to designate the aggregate branches of medicine as a "School of Medicine," as it is to speak of a School of Mathematics or a School of Natural History. And yet newspaper writers, members of legislative bodies, and even many members of the profession and prominent medical journalists,

continue to speak and write of the "regular School of Medicine" on the same plane as the little bundle of fanciful dogmas they call the Homœopathic School, the Eclectic School, the Christian Science School, the Electro-physio-pathic School, etc.; and it is very rare that any form of law having any bearing on the education or practice of medical men, or on the protection of the public health, is proposed in one of our State legislative bodies that is not marred by some recognition of the various so-called Schools of Medicine.

As examples, a Bill was recently introduced into the Legislature of Pennsylvania providing for the appointment of a State Board of Medical Examiners by the Governor, subject to the approval of the Senate, making no mention of Schools of Medicine in any way, thereby leaving the appointing power untrammeled. But it was speedily so amended that no one school of medicine could have a majority in the Board. So in the Michigan Legislature an Act is pending for a State Board to be composed of two members from the regular, the homœopathic and the eclectic schools of medicine.

Has not the time come when the members of the medical profession should cease to call themselves a "School of Medicine;" and refuse to respond to such designation when used by others? Legislative bodies have the right to *protect* the *people* by enacting such laws as will require every person proposing to practice medicine and surgery to possess a good knowledge of medical science and art, but with medical sects and theories they have properly nothing to do.

MICROBES IN HEALTHY FEMALE ORGANS OF GENERATION.

The presence of various microörganisms in the vagina when in an apparently healthy condition has been noted by several observers. Recently, DR. G. WINTER has been prosecuting a more systematic and extensive investigation, regarding the presence or absence of these bodies in all parts of the female sexual organs when in good health.[1] In the vagina, a variety of microbes were always present, and in considerable numbers. In the os and cervical canal he found a similar variety generally present but not always. He found their number much increased during pregnancy. But he states positively that he found no microörganisms of any kind, either in the cavity of the uterus or in the Fallopian tubes. According to Dr. Winter's observations the most numerous variety of microbes present in the healthy vagina and cervical canal, is the staphylococcus, identical with the pathogenous cocci. If his observations on this point are correct, it affords additional evidence that pathogenic germs are harmless so long as they are in contact with naught but healthy living tissues, and become actively disease-producing only when in contact with degenerate or necrotic structure or the products of the same. Again, if these pathogenic germs are always present in the vagina and cervical canal, and increase during pregnency, it only requires the presence of disintegrating blood or placental débris in the lochial discharge, or even the presence of an atmosphere containing an excess of albuminoid ammonia, to furnish the microbic papulum needed for bringing the puerperal infection into its usual destructive activity. And inasmuch as the lochial discharge always contains more or less blood for several days after confinement, it would seem that every case of labor leaves the woman with all the elements necessary for a possible puerperal infection, present, without reference to what might be communicated by the physician, midwife or nurse. Possibly, however, Dr. Winter may be mistaken in the opinion that the microbes he found in healthy genital tracts were really pathogenic; and other observers may be more fortunate in finding some healthy vaginas free from microbes.

[1] Zeitschrift für Geburtshülfe und Gynäkologie.

THE MEETING AT NEWPORT.

The Fortieth Annual Meeting of the Association, which is to convene at Newport, R. I., on the 25th of June, promises to be one of unusual interest. The preliminary programme is published in THE JOURNAL, under date of April 13th. It shows that the Committee of Arrangements already has its work well in hand. From the known efficiency of this Committee we are confident that every reasonable effort will be made to render the meeting in all respects a notable success.

We are happy to state also that the officers in the various Sections are actively engaged in securing such papers for presentation as shall command

the interest of those who attend, and elicit such discussions as time will permit. This is well. The best thought of the profession should be represented there—and those who make sacrifices for the purpose of attending should be amply repaid for the effort.

The assembling of prominent medical men from all sections of our country is pleasurable and profitable. The social gatherings of the profession at these annual meetings are always delightful. But we wish to emphasize the fact that the Association has a vastly more important mission to fulfill than that of simply bringing medical men together for mere social enjoyments.

Its value to the profession and to the people of this commonwealth lies not in its power for the culture of social amenities—pleasurable as that may be—*but in the value of the work done*, in the several Sections while the Association is in session. Its real mission is, and must be, the promotion of medical progress and the advancement of the healing art. To this end the papers there presented should represent the best efforts of our ablest men, and the same order of talent and culture should be enlisted in their discussion. To this end special care should be had in the selection of the officers of the Sections. And these officers when they accept their responsible positions should do their work so wisely and so well that the programmes when presented to the profession should possess the power to draw all interested men unto them. This manifest need for the future welfare of the Association, we believe, will be largely met at Newport.

RUPTURE OF THE INTESTINE.

At the regular meeting of the Chicago Medical Society, April 15, 1889, DR. J. J. ALDERSON presented a section of the small intestine that had been ruptured under the following circumstances. The patient from whom it had been taken was an adult laboring man, wearing a truss for the support of an inguinal hernia. While engaged in some work a loop of intestine was forced out by the pad of the truss. He succeeded in returning it back into the abdominal cavity, but it was immediately followed by acute pain and the rapid development of all the symptoms of peritonitis, terminating early in death. The post-mortem examination revealed much serous fluid freely mixed with fecal matter in the peritoneal cavity, extensive peritonitis with some patches of plastic lymph or pseudo membrane, and a liberal opening through the coats of the section of small intestine exhibited to the Society. Dr. Alderson stated that he had been unable to find any case on record of an intestinal rupture under similar circumstances, and thought the accident one of very rare occurrence.

EDITORIAL NOTES.

SUNSTROKE EARLY IN THE SEASON.—At Pittsburgh, Pa., on April 19, 1889, the temperature was reported to have reached 82° F., and John Jenkins, a steel worker, and an unknown man on Smithfield street, were stricken down with "sunstroke."

DR. W. F. WILSON, a specialist in the department of ophthalmology, practicing in Denver, Col., died on April 19, 1889, from an overdose of morphine to produce sleep. He had been troubled with insomnia, and was only 29 years of age at the time of his death.

SOCIETY PROCEEDINGS.

Gynæcological Society of Boston.

199th Regular Meeting, February 14, 1889.

THE PRESIDENT, W. SYMINGTON BROWN, M.D., IN THE CHAIR.

The report of the Treasurer for 1888, showing a balance of $404.59, was read and accepted.

PATHOLOGICAL SPECIMENS.

DR. A. L. NORRIS exhibited a placenta with an unusually short funis (nine and a half inches). The patient, Mrs. J. D., married, has a distorted pelvis and has always been delivered with much difficulty by forceps and ether. She has been delivered by me of living children as follows:

February 2, 1887, a male child, weighing 10½ pounds.

February 20, 1888, a female child, weighing 9 pounds.

February 14, 1889, a female child, weighing 9 pounds.

Thus, in the interval of two years and twelve days, have I delivered this patient at term of three living children.

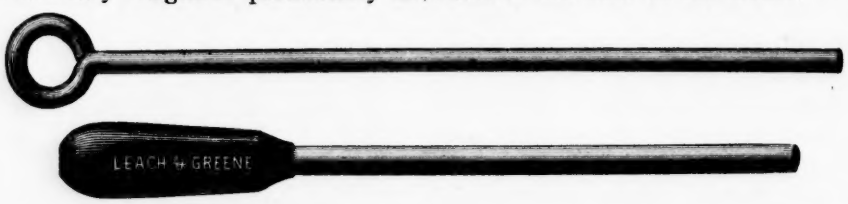
DR. J. COLLINS WARREN, by invitation, read a paper on

THE DIAGNOSIS AND TREATMENT OF CANCER OF THE BREAST,

to which the Society listened with marked attention and interest. Dr. Warren alluded to the great changes which have recently taken place in the treatment of this formidable disease, investing it with a new interest to the surgeon. Whereas the old operation contemplated a removal of the mammary gland, with a portion of the integument and a shelling out of the glands in the axilla when enlarged; the methods advocated in England, Germany, and this country now, contemplate a removal of the gland and its coverings; the fascia of the pectoralis muscle and a complete dissection of the fat and glands from the axilla and the lower margin of the pectoralis, and it is known as the "completed operation."

This operation has recently been objected to by able surgeons, and indeed, all operative interference has been thought useless, since it is claimed that life is as long in the average of a large number of cases not operated upon, as in those which have been subjected to operation. Moreover, the complete operation has been said to increase the mortality 50 per cent.

The reader dwelt on the importance, in the first place, of an early diagnosis particularly in those doubtful cases which are those usually submitted to the surgeon for a decisive opinion. He showed an instrument, devised by Dr. S. J. Mixter for removing powder grains from the skin, which he had adapted to this purpose. It consists of a canula with a sharp edge which can be bored into the new growth, and, by withdrawing a short distance and then advancing in a slightly different direction, a cylindrical mass is cut off, which can be removed in the canula. In this way good sized sections can be procured, by which a satisfactory microscopic examination can be made, and the nature of the growth determined.



This can be done in the doctor's office with the aid of a subcutaneous injection of cocaine. A small puncture through the skin with a narrow bistoury facilitates the introduction of the instrument. Antiseptic precautions prevent subsequent inflammation, and no trouble had occurred in any of the cases operated upon by him in this way. This is an old method which had been abandoned, but can now be revived and made practical by the advantages offered by antiseptics and improved microscopical technic.

Dr. Warren then gave some statistics bearing upon the mortality of the completed operation, and stated that he had had thirty-one consecutive cases without a death. Gross gives fifty-three cases of his own and his colleagues with two deaths. It is fair to assume that the antiseptic methods are daily becoming more familiar to the average surgeon, and are constantly being improved upon; and in the light of recent experience, it is not too much to hope that a mortality of only 3 per cent. could be obtained. Dr. Warren was unable to give an account of all his cases; but he quoted examples taken from his tables showing an immunity of three years and a half after operation; of four years and of four years and a half without recurrence at the present time. He is in favor of a dissection of the axilla even in cases where there are no glands to be felt; for in one of the cases quoted, glands were found in the pyramidal mass of fat removed from the axilla He thinks that it is probable that when the statistics of the next few years are rolled up and counted, we shall find that surgery has succeeded in accomplishing a cure in 20 per cent. of the cases.

DR. J. F. FRISBIE: Does Dr. Warren believe the case of Mrs. P. to which he referred, was the result of the blow on the breast?

DR. WARREN: I am inclined to the opinion that the blow was the cause of the cancer which developed in her breast.

DR. FRISBIE: Then you believe cancer may follow injury as a result of that injury alone?

DR. WARREN: Yes. There are cases where no other reason can be given.

DR. JOHN C. IRISH: I have been much interested in the instructive and practical paper that has just been presented. The ingenious device, by which Dr. Warren secures a portion of the morbid growth for microscopical examination, is very valuable; for it will give great aid in the early diagnosis of tumors of the breast, that is, as to their malignant or non-malignant character. With women of middle or advanced age, every solid growth in the breast is so liable to contain cancerous elements or to acquire them, even if it is benign at first, that my rule of action is, to advise their immediate removal. If the disease is malignant, its early removal is of unquestioned advantage; if benign, this treatment by excision is not inappropriate. One very important matter that Dr. Warren presents to us for discussion is the question, Whether in all cases of extirpation

of the breast for cancer or supposed cancer, we should make the completed operation, so-called, which consists of as thorough a removal as possible of all the fat and glands in the axillary space? Whenever the latter are appreciably affected, there can be no question as to the necessity of the completed operation. But when there is no apparent disease in the axilla, is there sufficient reason for converting a simple surgical operation into a severe and formidable one? I believe not, for the following reasons:

First. In a large proportion of cases the completed operation will permanently cripple the corresponding arm and hand, that is, the patient to a greater or less degree is forever incapacitated, from performing work.

Secondly. Since it is impossible to remove all the glands of the axilla by an operation that is continued only a reasonable length of time, we have left a nidus for the reappearance of the cancer; and I do not see any reason why a portion of the glands may not afford just as good a one as the whole of them. Therefore, we would logically infer that the completed operation must be a failure in its attempt to prevent or even retard a recurrence of the disease.

Thirdly. The cases of permanent recovery that have followed excision of the breast have been examples of the incomplete operation for the most part. None of these cases could have done better if they had had the completed operation, and most of them would have done much worse; for most of them would have been permanently crippled instead of completely cured.

Dr. Hodges, last fall, published in the *Boston Medical and Surgical Journal*, an article in which he gave the statistics of a large number of excisions of the breast alone, (that is, in which the incompleted operation was made) and in which the cancerous disease afterwards reappeared either in the scar or elsewhere. Among these cases the secondary malignant growths recurred first in the axilla in only 3 per cent. Now, if these statistics of Dr. Hodges are reliable, and no one, so far as I know, has questioned their correctness, in one hundred cases of excision of the breast alone, the cancer will return in only three cases in the axilla first. Now, are we justified in submitting these one hundred cases to that formidable surgical procedure, "the completed operation," instead of the simple excision of the breast, when by so doing we shall kill ten of them, and harm or cripple many of the remainder, when we have only the hope of curing or benefiting three? Could a surgical operation with weaker legs to stand upon, logically speaking, be proposed?

Dr. A. P. Clarke said that he had for a long time held to the view that cancer is a local instead of a constitutional disease, and since accepting that view he had been accustomed to advise that an operation for the removal of a cancerous breast be done with the least possible delay. By means of the microscope an early diagnosis can be made, and much valuable time saved instead of being lost, as it formerly was, when it was deemed necessary to wait until the disease had become so well pronounced that but little hope for recovery after an operation had been decided upon, could be entertained.

He was much pleased with the little instrument, devised by Dr. Mixter and shown by Dr. Warren, for the removal of a small section of the growth, before its excision, for purposes of microscopic examination. He agreed with the reader that all the affected glands in the axilla and vicinity should be removed, however extended the incision has to be carried in order to accomplish this. This method he had followed in his own practice for some years, and he well remembers having been called to assist Dr. Marcy in his first case about twenty years ago. At that time the method of removing the affected glands of the axilla was hardly known or practiced in this country; but the results obtained by Dr. Marcy, as well as by the speaker, showed that quite a large number of the cases operated upon, made a permanent recovery. In regard to the impairment of the arm occasionally resulting, as has been mentioned, this should not be regarded as an objection to the operation, as those results occurred in the earlier cases when the glands were removed, and subsequent experience has taught us how to preserve more of the nerve branches that pass through the axillary space and to the arm, injury to which caused the untoward result. There is another class of cases that sometimes occurs, not mentioned by the reader, in which, after operation for removal of a cancerous breast and affected glands of the axilla, though there is no recurrence of the disease at the former site of the operation, there is a development of cancerous disease at a distant part or in a neighboring organ. In one case occurring in Dr. Clarke's practice, that of Mrs. L., æt. 45 years, he removed on November 19, 1880, the left breast and affected glands of the axilla on account of cancer. The patient recovered, and enjoyed good health for five years, when she began to show signs of cancerous cachexia. After much severe suffering, she died November 18, 1886. The autopsy showed there were extensive deposits of cancerous matter in the liver. The disease appeared in the form of whitish spots of circular shape and of various sizes. These spots also, at first view, had the appearance of ulcers, but on closer inspection, were found to be firm and smooth, and each was depressed slightly in the centre. On section, they were noticed to be hard or schirrous, and yellowish in appearance. Some of the deposits were much harder than others, having the appearance of age, while others were of quite recent date. Some were an

inch in diameter; others of the size of millet seeds. The right kidney contained a few recent deposits similar to those in the liver. There was no appearance whatever of any return of the disease at the original site. The question that is of interest is, was the occurrence of the disease in the liver due to infection derived from the breast before the operation? The extreme hardness of some of the cancerous deposits indicated great age. The speaker believed that if he had been called at an earlier date to excise the breast, the patient would have escaped further infection. Other cases of a somewhat similar history the speaker had seen, but they tended to show that cancer of the breast is a local, instead of a constitutional disease, and therefore, we are justified in resorting to excision of the cancerous breast at the earliest possible date. He would like to hear Dr. Warren's explanation of the secondary deposits in the liver.

DR. WARREN: Secondary deposits in the liver may come about by possible extension of the original disease into the substance of the pectoralis muscle; thence it may go to the thorax, and then we may have a cancerous pleurisy. If an internal depot is once established, a new metastasis in different directions may occur.

DR. F. L. BURT remarked that the difference of opinion of authorities has its influence on other men who are not authorities. Both the time and extent of the operation are of importance. Dr. B. has seen recurrence of the cancer on the line of the cicatrix. He believes that the majority of cases which need any operation require the completed operation. The *American System of Gynecology* has an article by Dr. Gross in which there are pictured wounds, both open and closed. Possibly this makes no difference in the recurrence. He has seen some operations where a great amount of skin was removed, but the wound was closed and the patients went home in three weeks. Of thirty-five cases, the later ones went home in eighteen days, and the healing was by first intention, which is very different compared with several months when the wound is left open. He has seen two cases of recurrence. One recurred in a year and a half, and the other recurred in four weeks in the skin.

DR. MARY E. BATES asked Dr. Warren if, on general principles, he would remove a growth the size of a hen's egg?

DR. WARREN: Some growths of that size have been found to be cystic on exploration, and the fluid ran out through the canula and all then collapsed. It is a good rule to use the exploring canula in doubtful cases.

DR. S. J. MIXTER: The punch spoken of by Dr. Warren was devised by me to fill a want Dr. Warren noticed and had mentioned to me, namely: something that should take the place, in solid tumors, of the aspirator in tumors with fluid contents. Instruments were long ago invented for tearing shreds of tissue from tumors and organs situated beneath the surface of the body, the best form being a very small pair of forceps that could be introduced through a trocar, canula or aspirator needle. These, however, gave but small shreds, which were not large enough for sections, and were unsatisfactory for examination in every way. The instrument shown is simply a steel tube, which may be of any convenient size, fitted with a cylindrical needle and sharpened at the end by being bevelled from the inside, the edge being at right angles to the axis of the tube. By making a puncture through the skin with a tenotome and introducing the punch through the opening, it is made to cut its way as far as necessary by rotation with slight pressure. The tube is then withdrawn about a quarter of an inch, the point turned to one side, and again advanced and rotated, thus cutting off the lower end of the cylinder. The finger being placed over the upper end of the tube, it is then withdrawn, when the piece of tissue is pushed out of the tube by a plunger. In this manner any solid tumor that could safely be reached by the aspirating needle can be examined. The pain of the operation is slight, and may be relieved by a deep injection of cocaine. I have examined in this manner tumors of the breast, tongue, face, antrum, uterus, deep-seated tumors of the neck, etc.

It has been stated that dissection of the axilla is not called for, as it cannot be complete in any case, as the region above and behind the axillary vessels and nerves cannot be reached. Of course, when the disease extends from the axilla in every direction, as in advanced cases, a thorough dissection cannot be made. But I have found by injection of the lymphatics from the breast, that the course of the vessels and chain of glands is over the edge of the pectoralis major close to the muscle, and then toward the apex of the axilla, *below and in front of the vessels and nerves*. Unless the disease in the axilla is far advanced, we find no glands above them. As another objection to the completed operation, it has been stated that the arm must necessarily be disabled. By observing the rule laid down by Küster that the subscapular nerves be saved, and by preventing the glueing of the arm to the side by the cicatrix, these difficulties may be overcome. By careful dissection the nerves may easily be saved, and by stitching the skin high up in the axilla by a quilted suture to one of the upper serrations of the serratus magnus, in the manner that I have described elsewhere, there need be no cicatricial contraction. By making the incision so that the line of suture of the breast wound is vertical, and prolonging this incision, not along the middle of the axilla, but *above* the axilla high up on the pectoralis muscle, the final line of sutures, when the arm is at the side, is in full view in front. By the use

of this method in a considerable number of cases, I have been able to give a useful arm and one that could be easily raised above the head, even in cases where it has been necessary to remove a large part of the pectoralis major, and where a large surface was left to heal by granulation.

DR. HENRY O. MARCY stated that he had listened to the paper of Dr. Warren with exceptional interest, not alone on account of its scientific merit and practical instruction, but because it marked a departure almost revolutionary from the teaching which had dominated the surgical thought of Boston, particularly as representative of the views emanating from the Massachusetts General Hospital.

Twenty years ago it had been his good fortune to be the pupil of the late Dr. Bennett, of Edinburgh, who strongly held to the opinion that cancer was first a local and not a constitutional disease. Convinced of the correctness of these views, Dr. Marcy proceeded at once to put into practical execution the legitimate deduction, that if cancer is a local disease its treatment should be prompt and thorough as possible in its eradication to be effective. This led him very early to the careful dissection of the axillary glands and all suspicious and superfluous fatty tissue, and it has been his custom in all cases to dissect carefully the axillary space. Although it cannot be doubted that such radical measures add materially to the gravity and difficulty of the operation, especially as done before the days of carefully applied aseptic surgery, in his own experience he recalled but two cases during all these years where the operation had resulted fatally. This good result, however, he ascribed in large measure to his early adoption of Listerism, and its application in all its painstaking details. He recalled one of his first cases, operated on in 1871, where he removed a cancerous mammary gland of the right side from a young, fleshy, and otherwise healthy woman. This was not alone true cancer as judged by himself, but the opinion was confirmed by Dr. Fitz, since Professor of Pathology. In the primary operation the axilla bore no evidence of disease and therefore was not opened. Three months later, however, the axillary space was filled with a mass of enlarged glands, which he dissected out very thoroughly, quite after the manner described by Dr. Warren. He had the satisfaction a few months since of examining this patient. She has remained in good health without the slightest impairment or discomfort in the use of the arm. More than ten years since Dr. Marcy sent a poor woman, a coatmaker, to the Massachusetts General Hospital, for the removal of cancer of the right breast, where the glands of the axilla were also affected. She was refused admission, because of the advanced stage of the disease rendering, in the judgment of the surgeons in charge, the operation ill-advised. Assisted by his friend Dr. T. H. Burchard, of New York City, at that time his guest, they made the dissection complete. Although he has twice since removed recurrent glands, when seen quite recently she was still earning a livelihood with her needle. At the Hospital Dr. Marcy recently removed recurrent cancerous glands from a patient from whom he had removed a cancerous breast six years ago. In the primary operation he was assisted by Dr. W. H. Baker. During these years she had had no discomfort. Although these illustrative cases are the exception, they stand for a class of accepted cures and teach the advantage of early radical treatment. Dr. Marcy was assured that Dr. Warren had given expression to the opinions of a large class of modern surgeons, which views he was glad to believe would early be accepted by both physician and patient as a decided advance in the surgical treatment of this most dread disease. He heartily congratulated Dr. Warren upon his distinctive satisfactory results.

DR. G. W. JONES asked Dr. Warren if it is dangerous to leave any fat.

DR. WARREN: The cases differ. Some are seen with little or no fat, and sometimes there are layers of fat and tissue. This it is important to remove as much as possible. Dr. Warren referred to a case of cancer of the tongue, that had been on the iodide of potash treatment for syphilis and did not get well. With the canula the diagnosis of cancer was made, and the operation was performed immediately. In abdominal tumors, Dr. W. has used the largest-sized aspirating needle with suction for the purpose of exploration. In a case of kidney disease we generally get only blood, but if the material in the needle is carefully examined with the microscope enough tissue may be found for a diagnosis.

DR. S. N. NELSON testified to the advantage to both patient and surgeon from the possibility of accurate diagnosis of new growths before operation. Formerly it was necessary to wait until after removal before the specimen could be examined by an expert and the verdict rendered. In the sister profession an attempt is made to determine the *necessity* for punishment before it is inflicted. Should not we do the same? The ingenious instrument invented by Dr. Mixter opens a new era, rendering this possible. By the use of this simple device we are enabled to procure our specimen before operation and without injury to the patient, and subsequent procedure can be determined upon at leisure. This, it seems to me, is the greatest gain to the patient in the possibility of obtaining proper treatment. This gain may well be compared to the advantage which the higher powers of the microscope give us over the examination of the gross specimen; for it enables us to utilize these high powers at the time when their testimony is most needed.

Dr. Nelson himself has been accustomed to

make microscopic examinations of the cervix uteri in suspected cases, after etherization of the patient. A small piece is readily snipped off with the scissors. It is put at once upon the freezing microtome and sections are made, which, stained in alum carmine, render possible an opinion, if not a positive diagnosis, in five minutes from the time of procuring the bit of tissue, the patient continuing in the state of anæsthesia; and then the necessary operation is at once performed. If however, the expert with his laboratory facilities cannot be present at the operation, or if more time is desired for making the diagnosis, the small bit of cervical tissue can be obtained with the aid of cocaine, and, after diagnosis, the operation can be performed subsequently under ether. But I think a better specimen can be obtained for examination by Dr. Mixter's device than by the scissors, even where it is possible to use them. A great advantage in Dr. Mixter's instrument, as it seems to me, and one not mentioned by any of the speakers, is that by its use there is obtained a specimen which may be a sample of the whole new growth, even including normal healthy tissue. Thus we get not only the centre, where the pathological changes are the greatest, but also toward the edges where they are less marked, and even the advancing borders themselves; and thus the invasion of the healthy tissue can be studied. Of this every microscopist knows the advantage.

In illustrating the use of the instrument, Dr. Warren had brought a breast which he had amputated that morning, in which the diagnosis of cancer had been established by its aid. The site of entrance of the canula a few days previously showed as a small red spot. The cylindrical specimen removed was about 1¼ inches long and ⅛ inch thick. One-half of it divided longitudinally was exhibited. From the other half sections had been cut both longitudinally and transversely, and these, with others, were exhibited by

DR. WM. F. WHITNEY, who called attention to them, as showing what good topographical sections could be obtained from these exploratory punchings. In view of the more extended operation now performed in cases of malignant disease, he said it was now more than ever essential that the surgeon should know exactly the nature of the growth with which he had to deal. And with the aid of the instrument shown by Dr. Warren he was able to judge what he would be called upon to do before he touched his knife.

ELECTRICITY FOR ASCERTAINING THE TRUE NORTH.—The *Electrician* reports a rumor from Berlin to the effect that a means has been discovered of using electricity for ascertaining the true north, instead of the magnetic needle; that in short, the new means will be superior to the compass and is likely to supersede it.

Obstetrical Society of Philadelphia.

Thursday, March 7, 1889.

THEOPHILUS PARVIN, M.D., IN THE CHAIR.

DR. J. M. DA COSTA reported a

DOUBLE UTERUS AND VAGINA.

Uterus normal in length, with thin walls and anteflexed; otherwise well shaped, but with septum of from $\frac{1}{16}$ to $\frac{1}{12}$ inch thick, running from the tincæ to fundus, dividing it into two equal parts. Both sides of uterus were open, and a sound could be easily introduced into either side. Septum perfect in its entire length.

Vagina on first inspection appeared like a single one, but closer examination showed a septum reaching from the vulva to within less than ½ inch of the uterus, attached to and tying together the front and back walls of the vagina. Septum was thick and fleshy near vulva, thin near uterus. Opening on left side of vagina was good but small; that on right side not to be seen at first, but could be found by hooking the finger around the cervical end of septum and working it down, when the end could be seen at the vulvar opening. Septum was cut and raw edges stitched together. Before operation the septum was about 2¾ inches long; after cutting and suturing the parts contracted to about 1¾ inch long, and the vagina, which before operating would with difficulty admit the very smallest speculum, bore easily the largest-sized "Neugebauer" blades. March 6. The severe pelvic pains she continually suffered from have all disappeared. Menses formerly were a mere discoloration, lasting twelve to twenty-four hours; she is to-day just over a good full menstruation, which lasted over four days.

DR. J. M. BALDY read a paper entitled

COMPLICATIONS FOLLOWING ABDOMINAL SECTION.

The attention of surgeons, in the past and at present, has so commonly and almost exclusively been called to the perfection of the different abdominal operations, that sight is lost of the possible complications which may follow; or if noticed at all, they are kept locked up in the bosom of the individual himself, and the profession at large hears and consequently knows very little about these annoying, and at times serious results. In consequence of this, medical men are continually running across these patients and are having their faith in the value of the original operation shaken. Most men go into an operating room, see the operation, have a pathological specimen shown them, and then go away, satisfied as to the justifiability of the operation and confident as to the results. They may or they may not see the patient several times during the treatment, but are generally satisfied with an inquiry as to how the patient is progressing, and finally have the satisfaction of

hearing that she is well and has been discharged. The case is probably reported as cured in some society or medical journal, and thus the favorable statistics are swelled, and inexperienced and untrained men are led into attempting the operation, usually with the result of sacrificing several lives before they are frightened off.

It is about time for surgeons to look at and seriously study some of the dark sides of abdominal surgery; for a dark side it certainly has. Our results, as far as removing disease is concerned, are about perfected; let us now turn some of our energies into preventing or alleviating some of the after complications which are in many cases as bad as the original disease itself; probably not causing such immediate danger to life, but producing symptoms just as hard to bear, as far as the patient is concerned, and practically, to her belief, fully as bad, at times, as her former trouble.

When I first began to turn my attention particularly to gynecological surgery, especially the abdominal variety, I was considerably worried that my cases did not always run as smooth and uncomplicated a course as I had been led to believe those in the hands of my friends and others did. That they were not perfectly well when they got up, and came to me sometimes for weeks, complaining of one thing or another, was a source of great mortification to myself. And finally I began to find that troubles continued and others appeared which it was extremely difficult to control. At first, supposing that I was the only one so afflicted, I thought there must be something radically wrong, either with my operations or with my handling of the case afterward; and yet I could not reconcile these thoughts with the fact that I usually had the very best of assistance at the operation, and the constant advice of most competent men in the conduct of the after-treatment. Now I am constantly seeing and hearing of cases with similar troubles as my own, and some with complications I have never personally met with. These cases are by no means confined to the practice of any one man or any class of men, but represent patients of nearly every prominent operator in this city. Nor do I think that these results are confined to Philadelphia, but will be found wherever abdominal surgery is practiced.

To fully consider the causes, prevention and cure of these complications, is beyond the scope of this paper; my object being simply to call general attention to the prevalence of their existence and to make a few remarks on the most frequent of them. Some of the subjects have been, from time to time, noted by other surgeons, and have been called to the attention of the profession, only to be dropped almost as if they were subjects not to be handled and publicly discussed. Among the most frequent of these might be mentioned hernias; simple fistula tracts; fæcal fistulas; pain, pelvic or abdominal; œdema of the lower extremities. I have seen many patients suffering from all of these troubles, and have had some of them follow in my own practice.

Holmes has found that he had 30 per cent. of hernias following his operations. Now, as these cases were for the most part hospital patients, he could certainly not have kept track of them all, and so, if the whole truth were known, the per cent. would be much higher. It would seem, at first sight, that a patient developing a ventral hernia would return for treatment; but not so, for in my own case, with the exception of one patient, none of them ever reported, and I only discovered their existence from outside information. Thirty per cent. is, I think, a fair average of hernias following section. Most of the operators with whose work I am familiar have, I am confident, almost if not quite that proportion. I know of many cases in this city, of which the operator himself is not yet cognizant. Now, a ventral hernia is by no means a harmless thing. I can recall women who suffer almost as much from the presence of the hernias as they did from the original disease; in fact, more so. One case I know of had originally a small, unadherent ovarian cyst, found in the course of a general examination, and which gave her few or no discomforts. She now has a good-sized ventral hernia, from which she suffers considerably. These hernias constantly tend to increase in size, and where the woman is one who must be on her feet constantly, carrying heavy burdens, lifting heavy weights, or in fact doing anything which will increase the tension at the abdominal opening, the result must invariably be a rapid enlargement of the protrusion, with all the accompanying distresses. There is no good reason that some of these cases should not eventually, from various causes, become strangulated, and require a second and more serious operation; this has actually occurred. The mere protrusion and displacement has caused so much trouble, that an operation has been devised for the closure of the opening. The causes of hernia have been somewhat a matter of discussion; some contending that the drainage tube is most at fault, while the advocates of the tube repudiate that idea. Then again, improper suturing is charged with the results. Whatever the cause, the lesion is certainly a lack of union of the muscular tissues and the deep fasciæ; the remedy is plainly that of securing perfect apposition of the edges of these tissues. Time is frequently, in an operation, a most important element, and there is no need of wasting it by passing a separate row of sutures in the peritoneum itself, as has been advocated and practiced in some of our neighboring cities. The peritoneum always unites, and does so in a very short time. As far as I know, it has never failed to do so, excepting in those cases where the whole incision failed. The hernia is always found to have a covering of skin, superficial fascia and perito-

neum. It seems to me that a continuous catgut suture of the muscles and deep fasciæ is all that is needed, beyond the usual all the way through suture. I can recall a case where the presence of a hernia, by demanding an operation for its closure, resulted in the death of the woman.

This city now contains a large number of women with fistulous tracts in their abdomens. Some of them have followed drainage, and others have been produced by abscesses rupturing through the incision, and the track never closing again. The extraperitoneal method of treating the pedicle in hysterectomy is a very frequent cause. The length of time it takes the clamp to come away is often so great as to leave an opening, which constantly discharges pus, in small quantities, it is true, but yet enough to be exceedingly annoying and uncomfortable. I have had two such fistulæ following hysterectomy, and neither of them have I yet been able to cure; one, however, now gives fair promise of soon closing. I have, fortunately, had no other fistula tracts following my operations. One case I know of was a few years ago operated on for some pelvic trouble, and after a few weeks the patient was sent to her home with a drainage tube (rubber, I think), in her abdomen. The surgeon lost sight of her, and the tube, being neglected, became most foul. The case afterwards drifted into one of our large general hospitals and there died. Another case was operated on for a pus tube. The second tube and ovary, being apparently healthy, were left *in situ*, but these afterwards took on disease and a second operation failed to remove it. A third operation was undertaken by another surgeon, with what result was never known but by a select few: certain it is that a fistula track followed, after a severe illness. This woman also finally found her way into one of the general hospitals, and was miserable enough to die, if she did not do so; what finally became of her I do not know. A third case had one side of a double tubal trouble removed, and the drainage track never closed. I saw this woman a year or more after the operation, on her deathbed. The track was discharging pus freely and always had done so. Before her death fæces were also finding their way through the opening, a slough having evidently come away from the bowel. A fourth case, after everything else had been done without success, had a counter-opening made into the vagina by another surgeon into whose hands she had fallen. The operation also, unfortunately, opened the bladder, so high up that it was impossible to repair it. She has now a vesico-vaginal fistula in addition to her other troubles, and at last report was in a dying condition. And so I could go on with case after case, some as bad and some not so bad; but, at its best, a fistula is a most miserable complication, and too much attention cannot be given to their prevention. If the drainage-tube is not responsible for the herniæ, it certainly is for a large number of the fistulæ; and although I am a firm believer in the advantages to be derived from free drainage, I fully realize its disadvantages, and often wonder if it could not be done away with oftener than it is. The great preventive of the formation of these fistulæ is to prevent abscesses forming and the necessity of their subsequent discharge, if they do form, it is better to go boldly in and empty them at once, than to wait and have them open by a slow, tedious and uncertain process, which may not be brought to an end before the patient is; the avoidance of the unnecessary use of the drainage tube and, when it is used, the most careful attention to its cleanliness, and its early withdrawal. I believe a permanent track results oftener from an unnecessarily prolonged use of the tube than from any other cause.

Fæcal fistulæ are not so common, and yet enough of them occur from time to time to be a warning of the danger of their production. When they do occur, they are usually so deeply seated and so bound around by inflammatory products that they cannot be reached, and if they are reached, as a rule, require one of the most dangerous and difficult operations in the whole range of abdominal surgery. I can recall a number of these accidents. One could not be reached after an extended trial, and the whole incision was closed up in order that the patient might die as quietly as possible; this she did not do, however, but lived in spite of everything, and the track afterward closed of its own accord. Another case required the most constant and careful irrigation, after an unsuccessful attempt had been made to reach it, to save the woman's life. And so they go; if an attempt is made to close them, a great risk is taken; if they are let alone and do not close spontaneously, the patient had better be dead. The usual cause, as far as I have been able to observe, is intestinal adhesions to diseased organs. Often after tearing a loop of gut loose, I have returned it in fear and trembling, lest a piece at the point of adhesion slough out and give me a fæcal fistula. The prevention is the greatest care in tearing loose each adhesion, and a most careful attention to the after-treatment. When they do occur, they are best left alone.

The continuance of pain or the appearance of a pain not before present, following abdominal section, is so common, that every one engaged in this kind of surgery must have noted its frequency. This pain is usually not very severe, but is of a constant nagging character, such a one as to so constantly wear on a woman's nervous system that it soon renders life a misery to herself and a burden to every one around her. At times, however, it assumes a severe character and becomes almost unbearable. I have known of a large number of such cases, some of which required an operation for their relief. In two cases

of this kind the only lesion found was an adherent omentum to the abdominal incision, the freeing of which cured the pain. Many others are now going about, suffering as much as they did before the operation. Most of this pain is, I believe, due to adhesions formed between the omentum or intestines and raw surfaces left by the operation, and the subsequent dragging on these points. This would seem to be true, as most of the cases which I have known of and which were operated on and the adhesions released, have been cured or nearly so. I also think that the adhesions in the original disease often cause most of the suffering; this is especially so in the pelvic cases. From these same adhesions we have sometimes an obstruction of the bowels, either at once, or later after convalescence, and causing death in consequence. I can remember several cases of this kind which could be explained in no other way; and, in fact, some of which were demonstrated to be so by a post-mortem examination. The remedy for their formation and all their attendant dangers and discomforts is to keep the bowels moving, so they can have no chance of adhering. The best way of accomplishing this is by purgatives, and by the *non*-use of opium. Fortunately, the indications for purgatives are so many and so constantly present, that they can almost always be used.

Œdema of the lower extremities I have a number of times seen; sometimes only temporary, but at others of long enough duration and severity to be of considerable annoyance to both patient and surgeon. In my own practice this has occurred several times, but has always eventually cleared up.

When every person about to undergo an abdominal operation must run the gauntlet of all these complications, as well as many more unmentioned, it becomes a serious matter in deciding for or against an operation. We have here more than the immediate risks to life to consider; we must think, if the patient has his or her present disease removed, will she be any better off, or may she not be the worse for the interference? At any rate, such a state of affairs should be a warning to inexperienced men not to be misled by the brilliant reports seen in the journals, and not to rush thoughtlessly into an operation, expecting to produce the same perfect results. They should know that, as a rule, only favorable cases are reported, and that men do not like to publish to the world their bad work or misfortunes. Abdominal surgery is by no means the simple, easy procedure some men would make us believe, and such an operation should never be undertaken except after the most careful consideration of all the risks that must be run, the chances of benefit to the patient, and in the presence of actual demonstrable disease. Until the dark sides of abdominal work are well known to the profession at large, the *furor operations* which have been so justly complained of will continue, and many women will succumb to the results of inexperience. He has had cases of fistula where the drainage tube was not used, but these were due to non-encapsulation of the pedicle ligatures. In one, while using the syringe, the ligature was washed out. This gave him the cue, so in the others he fished the ligature out by means of a small hook on the end of a fine wire. On the other hand, in the case of an ovarian abscess, he had kept drainage up for several months, and yet the track closed. It is his intention in a third case to pass nitric acid to the bottom of the fistula and see what can be accomplished in this way. In this case she menstruates through the track. He thought if operators would wait some time after they have operated, before reporting their cases, they would find a number of hernias. He takes a good deal of pains to avoid this accident and close the abdominal wound in an analogous way to that described by Dr. Price. The tendon, when retracted, he brings forward as much as possible with forceps, so as to bring it in contact with its fellow. He has had cases, in spite of every care. In the official report of Imlach's cases, although these were all cases of oöphorectomy, needing a very short incision, the percentage of hernias was 15. He keeps his patients in bed for two weeks before allowing them to sit up. In two cases in which he removed the ovaries, in fibroid tumors, he has had the incision rupture from too early taking out of the stitches. In these cases he sometimes leaves them in for two weeks. One case went home nineteen days after operation, in spite of orders, and the train becoming derailed, the jarring forced the cutaneous part of the wound open. Stitches had to be put in.

Dr. M. Price did not think with Dr. Baldy that abdominal surgery had anything to regret in these cases. He admitted that much of the dirt and filth, and many of the accidents which follow these terrible operations, are actually due to the surgeon. He did not wonder at there being fistulous tracks, for the reason that in many of these cases the adhesion to the bowel are of such strength that their separation often removes everything down to the mucous coat. He has seen as much as six or seven sutures applied to such a case. Fistula is a repetition of the old abscess, which finds its way to the surface through the drainage track. All of the disease has not been removed. In many cases the fistula saves the woman's life, and gives the surgeon a path through which to perfect his otherwise imperfect work. Fistula is a proof that the case has not been properly cared for. He did not believe that 30 per cent., or even 5 per cent., represented the number of hernias. He has only seen two cases follow. Their closure is unattended with danger. If due care and cleanliness are observed fistulæ will not occur.

DR. WM. GOODELL wholly agreed with the writer of the paper in regard to the stubborn nature of these fistulæ, and to the impossibility of avoiding them. He had now three cases of fistula. One had followed the removal of an intra-ligamentary cyst, in which he had reopened the wound for bleeding. She recovered, but a fæcal fistula had made its appearance about the fifth day, and had never closed. He had to peel off the tumor from the rectum. It was now a year and a half since the operation, and she was in the hands of a competent surgeon in the country. The only annoyance to the patient is an escape of gas from the wound. The second case, followed, the prolonged use of the drainage tube, after abdominal section, for pelvic abscess. He had not had charge of the after-treatment, but she was in the hands of a skillful surgeon. It may be needful yet to make a counter opening in the vagina. The third case was one of recurrent, intra-ligamentary cyst. The fistula resulted from a previous operation in which the surgeon used the clamp many years ago. He operated last November, and removed a recurrent cyst lying in a very large abscess cavity. A drainage tube was then used, which he still kept in because he could not get the fistula to heal from the bottom. To-day he made an application of iodine to the tract and told the husband to repeat it daily for a time.

DR. J. PRICE was a little surprised that one so deeply interested as Dr. Baldy was in this subject of abdominal surgery, should stimulate vicious elements to criticism of our present position, especially since they now had their attention turned towards surgery of the brain, spinal cord, etc. Dr. B. speaks of hernia. The position of the incision, the condition of the abdominal walls and the manner of introducing the sutures are of great importance. Death has followed tight sutures, and he was satisfied that herniæ often followed them. He always draws his sutures lightly. If you used three or four to the inch, tied them lightly, with perfect coaptation, your results will, as a rule, be perfect. In introducing his sutures he takes in half as much skin as fascia and twice as much fascia as peritoneum. This gives better apposition to the centre of the wound. He has not had a suture track abscess for more than a month, nor has there been any mischief about the tube. Nursing is of the greatest importance. The old nurses are meddlesome and dangerous, and he was glad to see them replaced by younger women. The tube can be dispensed with very often if the irrigation be thorough. Most surgeons are in too much of a hurry to get their patients up. Early rising is dangerous, and he has known surgeons to brag of getting their patients home in ten days. In fistulous tracks through which menstruation occurs, the only thing to do is to tie the tube and release it from the abdominal incision. He was often led to deliver the bowel, in order to release adhesions and even then torn the bowel down to the mucous coat. This does no harm if the serous surfaces are brought together. A drainage tube resting against those torn bowel surfaces favor the occurrence of a fistula. A man who gets scared at a fistula or ventral hernia is not prepared to do good work; his work begins in doubt and ends in disaster. The operation for curing a ventral hernia is not dangerous. We cannot ignore the importance of precision in diagnosis. We must try to decide as to the probable nature of the lesion. Dr. Baldy called attention to one point, that is the necessity of recognizing something definite, on which to operate. Savage and others are satisfied to operate for subjective symptoms only. This is not right.

The other day he refused to operate in a case which had multiple abscess in the lungs. Two weeks before he had gone to the house prepared to operate, but the family had refused. The time will come when operators will be most arbitrary in these cases. We shall have the right to say, that if the general practitioner waits until the eleventh hour, we will not step in, only when it takes a feather to depress the beam. Last summer a patient refused operation, to-day she sent for me and requested it. Peritonitis is often due to an imperfect toilet. It is often of limited extent or localized, leaving adhesions to portions of the viscera. This is a common source of pain and discomfort. The only good remedy is to do the work over and release the adhesions. This past summer he had either done himself or assisted others do eight of these operations over, and they had been the most difficult and trying of his whole experience. He wished to call attention to one case on which he had operated three times. Dr. Baldy saw the work. When he first saw her pus was escaping from the umbilicus. He opened the abdomen but failed to remove anything. Drainage was followed by a good recovery, but the wounds did not close. A year later he reoperated, but a fistulous track was left. Again a year later he used a catheter made of coils of wire. He passed this along around the ileo-pectineal line, towards the region of the kidney. He dissected along the pelvic bones and irrigated through the catheter. Last week, she was delivered of a fine baby, somewhere in the west. In this case he could find the ovaries and there was no lesion of them or the tubes. This is the only case of pelvic abscess without tubal disease, he had ever seen, in a long and rich experience. He wished to speak of two of the cases referred to by Dr. Baldy in his paper. One case he had operated on early in his experience, and had removed only one side of a specific tubal trouble. This he would never do again. The patient went into other hands and he did not

care to refer to the ghastly surgery which followed. Another case of which he had personal knowledge, was a case of imperfect surgery. This was a large pus sac which could have been removed, but was drained. The woman died of psoas abscess. Skene had called attention in his book, that pelvic abscess frequently caused spoas abscess. The incomplete removal of diseased tubes, should be rectified. If an inch of tube is left it will most likely do mischief. He has curretted into the cavity of the uterus, removing a cone-shaped piece. The tubes should be tied hard on to the uterus, and the ovaries should be tied at a good surgical neck, and the results will be about perfect.

(*To be concluded.*)

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Scheme for Providing Ambulances for the Metropolis—Color Blindness and Color Perception—Causes leading to Outbreaks of Measles in Glasgow—Glycerine Enemata in Obstinate Cases of Dysentery in young Children—Tobacco Smoke as an Antiseptic—Influence of Electric Light upon the Eyes.

Mr. Ryan recently read a paper at the Middlesex Hospital before the Hospitals Association, which gave the outlines of a scheme which will be a great boon to Londoners. Dr. Livingstone is said to have remarked that the ordinary wayfarer in the streets of London stands in more danger of injury to life and limb than a traveler in the wilds of Africa. What is now wanted is a number of proper ambulances scattered all over the metropolitan area, so that in case of accident one shall always be obtainable. Mr. Ryan's paper set forth the details of a scheme which has been elaborated with this object. Briefly, the plan is to raise a fund of £1,500 for the purchase of seventy Ashford litters, in addition to those already kept at police stations and certain hospitals, and to distribute them at a number of new stations within the four-mile radius. Mr. Ryan suggested that the Fire Brigade stations would be good centres. But still other posts would be required, and there, it is suggested, might be certain railway stations and public buidings. It was announced that there would be no difficulty about the £1,500 required for the initial outlay. What is wanted is the collection of a guarantee fund to cover the cost of generally keeping up the undertaking. The annual expense is estimated at £277. The scheme, it is announced, will soon be an accomplished fact.

Dr. Eldridge Green, in a paper upon *Color Blindness and Color Perception*, held that the color perception centre of every individual was able to appreciate a certain number of units of color, these units corresponding more or less to the bands of the solar spectrum. Dr. Green considers the average number of units to be six, namely: red, orange, blue, yellow, green and violet, but persons of unusually good color perception passed a seventh, viz.: indigo or dark blue, which was placed between the blue and the violet. In persons with color perception below the average, one or more units of color would be wanting. He considered that orange was the first to disappear, and it was replaced by a widening of the red and yellow bands. Such a person belonged to the five unit class. The blue band disappeared next, the violet then extending to the normal blue green junction. The next band to fail was the yellow, the red then reaching to the green. The green and red then became as one band, and so the units were reduced to two, the violet still remaining. In total color blindness these two were replaced by a neutral band. Dr. Green deduced the following facts as to color perceptions in his investigations: 1. A person can have no conception of a color which does not form one of his psychophysical color units, or a very apparent modification of one of them. 2. If the colors belonging to two adjacent units be mixed, an impression of both units is obtained which is plainly perceived as a mixture. 3. If two colors not adjacent be mixed the intermediate color will tend to be brought before the mind, or white will be the result in the case of pure light, gray where there is partial absorption. 4. If any number of colors be mixed, the resulting impression will be that of a unit, a modified unit or white.

Dr. Russell, Medical Officer of Health for Glasgow, has published some rather startling statistics tending to show that an outbreak of measles in his district was due to infection during attendance in church. During the month of January forty-two persons belonging to the congregation of a Gaelic church were taken ill with measles. Taking twelve to fourteen days as the recognized period of incubation, Dr. Russell connects two serious groups of cases with the attendance at the church of two girls, on December 30 and January 13 respectively. One of these girls, it is ascertained, had come from an infected house, while the other had actually taken the disease two days before. Two other girls who usually worshipped elsewhere, but were in this particular church on the 13th, became ill on the 26th, and other circumstances pointing in the same direction are noted. Dr. Russell considers that unless something like perfect isolation and disinfection can be guaranteed to a person who is suffering from infectious disease in a house, all healthy members of the household should be debarred from attendance at school, church, or other place of concourse.

Lately Dr. George Rice has found that the gly-

cerine enema is one of the very best and most reliable means of combating the obstinate dysentery in young children which is frequently most difficult to relieve. Simple diarrhœa, too, quickly yields to the glycerine treatment, a couple of drachms being, according to Dr. Rice, generally sufficient to ensure some improvement, which a second dose completes. In place, however, of enemata of the ordinary kind, Dr. Grewcock recommends a tuft of cotton wool soaked with glycerine and applied in the same manner as a suppository, a few minutes sufficing to bring about the desired result.

Tobacco fumes have often been stated to be antiseptic. More than once it has been said that smoking has protected a house from small-pox, and even from cholera. Quite recently Dr. Hajek, of Vienna, has declared that smokers are less liable to diphtheria than non-smokers in the ratio of 1 to 2.8, and Dr. Schiff says that smoking is forbidden in the bacteriological laboratories, because it is known to hinder the development of bacteria in the various culture media.

A communication has been made by a well-known oculist of Cronstadt concerning the bad influence of the electric light upon the eyes. There have come under his observation within the past ten years thirty people suffering from a disease of the eyes. The symptoms were the same in each case, and all the patients had perforce of their employment been accustomed to remain for hours at a time near electric lighting apparatus. The new disease is called photo-electric ophthalmia. The patient is apt to be wakened in the night by great pains around the orbits, accompanied with an outpouring of tears. Intense photophobia is another characteristic of the malady.

A parcel was during this month discovered by the porter of the Huddersfield Infirmary, and on being opened it was found to contain 225 sovereigns. This is the second gift presented to the institution in this strange manner, a sum of £284 having been left at the Infirmary a few years ago.

Miss Flavin, a young lady from Liverpool, is on her way to Father Damien's leper colony. Brave, earnest woman; she knows that she is about to doom herself to a repulsive life among pariahs whose only business is to await a loathsome death. "I am," she said to a friend recently, "not seeking notoriety or reward, only the spiritual comfort of doing for these dying creatures what their terrible disease keeps other people from doing."

Dr. J. W. Washburn has been appointed to take charge of the new department of bacteriology at Guy's Hospital. Sir William Jenner is reported to be still far from well. It is understood that in the event of his resigning his office at court he will most probably be succeeded by Dr. Russell Reynolds, who is now physician to the household.

G. O. M.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Meeting of the New York Academy of Medicine—Paper by Dr. T. Gaillard Thomas, on Mania and Melancholia following Gynecological Operations—Six Cases reported.

One of the largest audiences of the season assembled at the first meeting of the Academy of Medicine, in April, to hear a paper by Dr. T. Gaillard Thomas on *Acute Mania and Melancholia or Sequelæ of Gynecological Operations.* The object of the paper, he said, was to place on record what he thought must be a rather remarkable experience as regards the matters in question. He desired to call attention at the outset to the fact that he did not announce these peculiar and alarming states as complications, or necessarily as results of operative procedure, but merely as sequels, which might or might not, be dependent upon it. Further, in this connection, he wished to disclaim the position that the operations performed for the relief of diseases peculiar to women are especially liable to such sequences; although all his personal experience was limited to this particular field.

Having defined his idea of the conditions entitled acute mania and acute melancholia, he stated that he would relate six illustrative cases. Out of these, he said, four were violent, and showed great mental exaltation throughout, while two were melancholic in their development; but they were acutely, violently melancholic, bustled about wringing their hands in their very distress, and after a short illness they died, as did two of the four who presented symptoms of pure exaltation.

Case 1.—Mary M., æt. 21, single, by occupation a cook, had noticed during the year before she was seen an abdominal enlargement which had steadily and rapidly increased. She had emaciated very rapidly, and was at the time she came under observation extremely weak and low spirited, and now felt that unless relieved very soon she would die from exhaustion. Physical examination revealed a large accumulation of fluid in the peritoneum, and, in addition, a round tumor occupying the whole of the left side of the abdomen. Although the case was not looked upon as a favorable one for operation, it was determined that, since extirpation of the tumor offered the only chance for the saving of life, it should be resorted to. The operation was accordingly performed, and the patient rallied well after it. She was fed upon liquid diet, and quieted by the administration of opium. Nothing existed to excite alarm, except her extreme nervous depression, and with the exception of this symptom

she appeared to be progressing favorably until the seventh night. Then she seemed more than usually nervous and excitable, and desired to see the priest, who was accordingly sent for. On visiting her early on the morning of the eighth day Dr. Thomas found that a great change had come over the patient during the night. Her eyes were wild and haggard, her face maniacal, her tongue red and dry, and she constantly talked in an incoherent and violent manner, like a woman suffering from puerperal mania. As he entered the room she covered her face with the bed-clothes and screamed out that he had leagued with the priest to murder her. Her pulse was now 160, and she remained in the same maniacal state until evening, when she sunk into coma and died. No post-mortem could be obtained.

At the time of this patient's death, now exactly twenty years ago, he regarded the condition which destroyed her life as one of acute septicæmia, a pathological factor which was then only just coming into notice, and one of which almost nothing was known. His subsequent experience with septicæmia, however, had convinced him that he was in error in this hypothesis. This case was by far the most rapid that he has ever met with. Its acute stage could not have lasted more than thirty-six or forty hours, while its prodromic, or melancholic, stage had existed ever since the operation. It was in all probability that mental state which made the patient constantly persist, as she did, in the assertion that her death was certain. An examination of the membranes of the brain, he thought, would have been most interesting in this case if an autopsy could have been obtained.

Case 2.—Mrs. X., a wealthy and fashionable lady, came under his care on account of severe suffering at her menstrual periods. She was 35 years of age, the mother of four children, and a stout, well-made woman. Her health was perfectly good, except that as her menstrual periods approached she would begin to suffer such intolerable neuralgic pain in the region of the ovaries that her life was rendered wretched. After consultation with two of the most eminent general practitioners of the city, the ovaries were removed. She recovered rapidly from the operation, but at the end of three weeks a low grade of melancholia developed, which soon took the form of violent acute mania, marked by tendency to strike her attendants. Her violence rendered it necessary to remove her to a lunatic asylum, and here she remained for four or five months, entirely insane. She then recovered and returned to her home and after the lapse of six or eight years is still perfectly well.

Case 3.—A Jewess, multipara, æt. 35 years, entered Dr. Thomas's service at the Woman's Hospital, and was submitted to the operation of perineorrhaphy. There was nothing peculiar in this operation as to severity or any other feature, and after it she did perfectly well until the ninth day, when the sutures were removed. At that time she became violently maniacal; talking constantly, jumping out of bed, throwing her arms about, and berating her attendants in strong, though not absolutely improper, language. It proved so utterly impossible to control her that a straight-jacket had to be applied. The patient raved violently for four days, and then sank into a comatose condition and died.

Case 4.—Mrs. R., a multipara, æt. 42 years, who for years suffered from retroflexion of the uterus, which was marked by profuse menstruation, came to him from Liverpool, England, for the repair of a badly lacerated cervix. The operation was performed at his private hospital, and presented no peculiar features. The patient's manner was noticed to be somewhat odd, and after the removal of the sutures, on the ninth day, she told him that in a few days she wanted to have a private conversation with him about a terrible crime which she had committed some years before, and the memory of which had ever since filled her with remorse. Two weeks after the operation the patient left the hospital; but after remaining away for a fortnight she was brought back suffering from acute melancholia. She was constantly depressed on account of remorse for a supposed crime, would sit silent for hours, and would then get up and pace the room slowly and solemnly, wringing her hands, weeping, and bemoaning her sad lot. She continued in this state, in the meanwhile gradually growing weaker, for ten days, when she became comatose and died. Uncontrollable insomnia was one of the most marked features of the case.

Case 5.—Mrs. C., a multipara, æt. 65 years, was submitted by Dr. Thomas in his private hospital to amputation of the breast. Even before the operation she seemed to be a flighty and eccentric person, but after it all her symptoms were intensified. On the ninth day the sutures were removed, and from this date the patient became gradually depressed, was sure that she could not recover, and wept almost constantly. She suffered during the earlier part of her illness from insomnia, and continued to do so until the symptoms of coma began to show themselves. The state of acute melancholia advanced until she refused all nourishment, and for a time she was sustained entirely by rectal alimentation. This patient lived for about two weeks after the breaking out of the attack, and then slowly passed into coma and died. Towards the close of the case the urine became albuminous and presented hyaline casts.

Case 6.—Mrs. M., a widow over 60 years of age, who had in early life borne several children, entered his private hospital to have a cancerous breast removed. Even before the operation her

somewhat peculiar manner excited attention, but it was not suspected that she suffered from any real mental aberration. About a week after the operation she began to grow noisy and irritable, and by the ninth day, when the sutures were removed, she was at times, chiefly during the night, absolutely maniacal. Then periods of perfect calm and lucidity of intellect would occur, and last for hours. At the end of three weeks from the time of operation, partly in consequence of her earnest desire, partly because it was thought a change of scene would benefit her, she was allowed to return home. Here in a few days violent mania developed, and at the present time she is still insane.

Having concluded his narrration of cases, Dr. Thomas stated that there was very little literature extant upon this subject, which, until recently, had attracted no attention. Prior to the year 1887 there was nothing. During that year Dr. Edward J. Ill, of Newark, N. J., published an interesting pamphlet entitled "Acute Psychoses following Gynecological Operations," which embodied his own experience and that of some German physicians. In it he collated the records of ten cases in which acute mental aberration followed gynecological operations. Of these three occurred in his own practice. The first was a case of acute mania following ovariotomy, the second one of melancholia following ovariotomy, and the third was one of melancholia following a minor operation upon the bladder. All recovered. The reports of the seven cases which followed are all drawn forth by the discussion excited by a paper read by Graube before the Berlin Gynecological Society, in 1887. One case reported by Graube occurred after perineorrhaphy, performed by Paul Ruge, and was entitled, by the reporter, a case of hypochondriasis. The second case was reported by Durelius as following amputation of the cervix. Czempin reported five cases of acute insanity which occurred at Dr. H. Martin's hospital. Of these, two followed excision of the rectum for carcinoma, one, an operation for prolapse of the uterus, one, an excision of hæmorrhoids, and one, an ovariotomy, which ended fatally on the tenth day; the mania being the cause of death. In the same year Guanck reported a case of severe melancholia following simple perineorrhaphy.

In 1888 Werth, of Kiel, read a paper on this subject before the German Gynecological Society, at Halle, in which he stated that in 300 operations on the female genital tract, he had in six instances observed psychical disturbances, due to the operation. In two cases the operation was total extirpation of the ovaries; in two, removal of the ovaries, and in two, ovariotomy. One patient was violently excited before the operation. In five cases the mental disturbance took the form of melancholia, and in one, of mania. In one case the psychosis appeared five days after operation, in one, eight days after, and in one, three weeks after; while in the remaining two cases it developed after the patients had been discharged. Of the six cases, three recovered, one after fifteen days, one after four months, and one after eight months. In two of the other cases there was no improvement, and the third patient committed suicide three and one-half months after the operation. The result could not be referred to iodoform poisoning, as the drug was used sparingly or not at all. Sänger, in discussing this paper, said that he recalled several cases in which cerebral symptoms had developed after gynecological operations. In two instances these were clearly referable to iodoform; though little was used on the dressings. In spite of the facts stated, however, he believed that patients with pelvic troubles having a tendency to psychosis should be treated in the same manner as other women.

In an article by Fillebroun, of Hamburg, published in the *American Journal of Obstetrics* for January, 1889, the author mentioned three cases of mental disturbance following gynecological operations observed by Prochowick, of that place. In two cases of melancholia improvement was very slow, while in the third case, which was one of violent mania developing three months after operation, the patient entirely recovered.

Dr. Thomas then went on to say that in four out of his six cases there was evidence of eccentricity even before operation, and in two of these four it was quite marked at times. In all the cases except one there were distinct prodromic symptoms following operation, and antedating by some days the formal outburst. In none of the cases could he discover evidences of hereditary tendency to insanity. Out of the six, four died, one completely recovered, and one was still in progress. In all the cases except one the renal secretion was carefully watched, and in none did the kidneys appear to be factors in the mental state. In four not a particle of iodoform was used at any time, and in the other two this drug was used, according to his custom, very cautiously and entirely on the line of cutaneous union, where absorption is next to impossible. He also felt very confident that none of his cases were instances of sudden and severe septicæmia marked by delirium.

It would be seen, he continued, that when his cases were added to those reported by others twenty-six instances of acute mental aberration following upon the performance of gynecological operations, were now placed on record. In concluding, he said that the following questions had suggested themselves to his mind in connection with this subject:

1. Were these twenty-six cases of mania and melancholia really due to the operations which immediately antedated them, or did they follow as mere coincident states, *post hoc, sed von propter hoc?*

2. Any great mental strain may be followed by mania. Is it at all remarkable that in the vast number of gynecological operations which have been performed during the last quarter of a century, in America and Germany, twenty-six cases of this malady should have occurred?

3. If the mania which followed operative procedures in these twenty-six cases was a consequence of them, how in the future is a tendency to the accident to be avoided?

4. Are the operations of gynecology any more likely than other surgical procedures, to disturb the condition of the mind? P. B. P.

An Honorarium Well Merited.

Dear Sir:—The enclosed slip is such a rare compliment paid to one of our profession that I think it deserves notice. It is as follows:

Be it ordained by the Municipal Assembly of the City of St. Louis, as follows:

SECTION 1. The sum of five hundred dollars is hereby appropriated from the fund to pay Dr. A. C. Bernays for medical attendance on Murty O'Sullivan, a member of the police force, from June to September, 1888, who was injured in discharge of police duty on June 26, 1888, and the Auditor is directed to draw his warrant on the Treasurer for the above amount and deliver the same to Dr. A. C. Bernays, taking his receipt in full.

SECTION 2. There is hereby appropriated and set apart out of municipal revenue to pay Dr. A. C. Bernays the sum of five hundred dollars.

Approved March 30, 1889.

The municipal assemblies of a large city pass an ordinance to pay a doctor $500 for a successful surgical operation on a policeman who was shot in the abdomen while attempting to make an arrest. The stomach, abdomen and jejunum required to be sutured. The laparotomy was done a few hours after the accident. Truly the world is getting better, and our profession is being recognized by a city assembly.

Respectfully,
W. W. KINGSBURY, M.D.

St. Louis, April 17, 1889.

NECROLOGY.

Samuel W. Gross, M.D.

Samuel W. Gross, M.D., Philadelphia, Pa., Professor of Surgery in the Jefferson Medical College, died on Tuesday the 16th inst., at the age of 52 years. He was a son of the late Samuel D. Gross, so long at the head of the surgical profession in this country, and was born in Cincinnati, O., while his father was occupying the chair of Pathological Anatomy in the Medical College of Ohio. He was educated in Shelby College, Ky., and graduated in medicine at Jefferson Medical College, Philadelphia, in 1857. He entered directly upon the practice of his profession in the last-named city. He served as Brigade Surgeon and Major of Volunteers through the Civil War, and was brevetted Lieutenant-Colonel at its close.

He has made several valuable contributions to medical literature, for the most part on surgical subjects. Perhaps his "Practical Treatise on Tumors of the Mammary Gland" contributed more to enhance his reputation as a writer than any other. Although he had filled the chair of Surgery only since his father's death in 1884, he had earned a good reputation as a didactic and clinical teacher. His death came unexpected, in the vigorous period of manhood.

BOOK REVIEWS.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By ARTHUR VAN HARLINGEN, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine; Clinical Lecturer on Dermatology in the Jefferson Medical College. Second Edition, Enlarged and Revised, with additional Plates and Illustrations. Philadelphia: P. Blakiston, Son and Co. 1889.

This is a neatly published octavo volume of 410 pages, designed by the author as a plain treatise on the diagnosis and treatment of the various diseases of the skin, such as would be most useful to the general practitioner. The issue of a second edition with important additions is sufficient evidence that the work has met the approval of the profession.

A CLINICAL ATLAS OF VENEREAL AND SKIN DISEASES; including Diagnosis, Prognosis and Treatment. By ROBERT W. TAYLOR, A.M., M.D. 192 Figures, 58 Colored Plates. Parts V and VI. Philadelphia: Lea Bros. and Co.

The earlier fasciculi of this work have been already noticed. These maintain the standard of excellence of the others. The plates are exceedingly good. The subjects illustrated in these numbers are Urticaria, Pemphigus, Tinia Tricophytina Barbæ, Tinia Circinata, Ecthyma, Lupus Erythematosus, Herpes Zoster, Pediculosis, Erythema, Erythema Circinatum, Tinia Versicolor, Tinia Tonsurans, Pityriasis Rubra, Dermatitis Exfoliativa, Impetigo Herpetiformis.

MISCELLANY.

AN INTERNATIONAL CONGRESS OF OTOLOGY AND LARYNGOLOGY will be held in Paris from the 16th to the 21st of September, 1889. Professor Duplay is President of the Committee on Organization, and Dr. Lœwenberg, rue Auber, 15, à Paris, Secretary, to whom all commuications should be addressed.

STATE MEDICAL SOCIETY OF ARKANSAS.—The Fourteenth Annual Session of this Society will be held at Pine Bluff, commencing on Tuesday morning, May 28,

1889, and continue three days. A full attendance and a profitable meeting is expected. For further information apply to L. P. Gibson, M.D., Secretary, Little Rock, Ark.

AMERICAN CLIMATOLOGICAL ASSOCIATION.—The next annual meeting of this Association will be held in Boston, June 24th and 25th, 1889, just prior to the meeting of the American Medical Association at Newport. Dr. V. Y. Bowditch, of Boston, President. An interesting series of papers have been secured and the meeting promises to be a very successful one.

ILLINOIS STATE MEDICAL SOCIETY.—The Local Secretary at Jacksonville, Dr. T. M. Cullimore, informs us that the list of railroad companies named below have agreed to carry delegates at reduced rates to the meeting of the Illinois State Medical Society to be held in Jacksonville, May 21st to 23d. The rate will be one and one-third fare, on the certificate plan. Delegates must consult local agents for instructions as to procuring certificates, and certificates must be countersigned by Local Secretary. Chicago & Alton; Chicago & Northwestern; Chicago, Burlington & Northern; Chicago, Burlington & Quincy; Chicago, Milwaukee & St. Paul; Chicago, Rock Island & Pacific; Chicago, St. Paul & Kansas: Chicago, Santa Fe & California; Illinois Central; Rock Island & Peoria; Wisconsin Central Lines; Wabash; and Jacksonville Southeastern.

IOWA STATE MEDICAL SOCIETY.—The Iowa State Medical Society will meet this year at Keokuk, on May 15th, and will continue in session three days. President, Donald Macrae, M.D.; Secretary, S. S. Lytle, M.D.

THE American Association for the Advancement of Science meets at Toronto, Canada, August 27, and will remain in session until September 3, inclusive.

PAMPHLETS RECEIVED.

Adams, Samuel S., Washington, D. C. *Hernia of the Pregnant Uterus.* Reprint from the Amer. Journal of Obstetrics and Diseases of Women and Children.

Brown, Dillon, M.D., New York City. *Intubation of the Larynx in Diphtheritic Croup.* Reprint from the New York Medical Journal.

Eliot, Llewellyn, M.D., Washington, D. C. *The Resuscitation of Asphyxiated Newborn Infants by the Suspension Method.* Reprint from Transactions, Vol. I, 1888.

O'Dwyer, Joseph, M.D., New York City. *Intubation in Chronic Stenosis of the Larynx, with a Report of Five Cases.* Reprint from the New York Medical Journal.

Rauch, John H., M.D., Springfield, Ill. *Preliminary Report to the Illinois State Board of Health. Water Supplies of Illinois and the Pollution of its Streams.*

Shrady, John, M.D., New York County. *Address on Medicine—Medical New York in 1800.* Reprint from Transactions of the New York State Medical Association, 1889.

Wyman, Hal. C., M.S., M.D., Detroit, Mich. *Emergency Hospitals.*

LETTERS RECEIVED.

Dr. Herbert E. Smith, New Haven, Conn.; Dr. Paul Barcus, Odell, Ind.; Dr. H. J. Holke, Mascoutah, Ill.; Dr. H. K. Givens, Fayette, Mo.; Dr. J. T. Crowe, Carrollton, Ill.; Dr. R. J. Dunglison, Philadelphia; Battle & Co., St. Louis; Dr. G. T. McCoy, Columbus, Ind.; Dr. J. B. Murdoch, Pittsburgh, Pa.; Dr. Wm. F. Waugh, Philadelphia, Dr. S. N. Nelson, Boston; Dr. G. L. Magruder, Washington; Mitchell & Maury, Memphis, Tenn.; Mellier Drug Co., St. Louis; Dr. J. W. Powers, Hudson, Ia.; J. H. Chambers & Co., St. Louis; J. D. Larkin & Co., Buffalo, N. Y.; H. P. Hubbard Co., New Haven, Conn.; Rush Medical College, Chicago; Henry Schwindt, New York; G. P. Pollard, Burlington, Vt.; Fairchild Bros. & Foster, New York; Dr. E. Allen, Athens, Pa.; Dr. Thomas Opie, Baltimore, Md.; J. Walter Thompson, New York; A. B. Stone, Washington; Dr. W. C. Owen, Newburg, Mo.; Edwin W. Ashford, Washington; A. B. Biggs, Louisville, Ky.; Dr. J. M. Fort, Paris, Tex.; Thos. Leeming & Co., New York; Dr. B. St. John Roosa, New York; M. Lanza, Howard Challen, New York; Redington & Co., San Francisco; T. J. Hackett, Milton, Quebec; Parke, Davis & Co., Detroit; Cincinnati Sanitarium; Dr. F. R. Percival, Ft. Hamilton, N. Y.; F. R. Goff, Burlington, Vt.; Chas. H. Phillips Chemical Co., New York; Dr. E. T. Schrider, Alvordton, O.; P. W. Bushong, A. E. Walesby, Louisville, Ky.; Dr. John M. Dodson, Chicago; Dr. D. Dedolph, St. Paul, Minn.; Dr. A. C. Worden, Detroit, Mich.; Dr. P. H. Bailhache, San Francisco; Dr. Anderton, New York; A. H. Roffe & Co., Boston; Lutz & Movius, New York; W. H. Woodworth, Millfield, O.; H. Planten & Son, New York; Dr. J. H. Thornton, Lansing, Ia.; Dr. H. V. Würdeman, Washington; Lea Brothers & Co., Philadelphia; E. Fougera & Co., New York; Publishers Commercial Union, Chicago; Philadelphia Polyclinic; F. A. Davis, Porter & Coates, Philadelphia; Thos. F. Goode, Buffalo Lithia Springs, Va.; Dauchy & Co., New York; Dr. Clayton Parkhill, Denver, Col.; The Aquidneck, Newport, R. I.; Dr. T. J. Hutton, Millington, Ill.; Dr. W. T. Eckley, Harper, Ia.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 13, 1889, to April 19, 1889.

Major John W. Williams, Surgeon U. S. Army, died at Jackson Bks., La., April 15, at 5 o'clock P.M.

Major John C. G. Happersett, Surgeon U. S. Army, is relieved from duty at Willet's Point, N. Y., and ordered to report to the commanding officer, Atlanta Bks., Ga., for duty as Post Surgeon at that post. Par. 12, S. O. 88, A. G. O., April 16, 1889.

First Lieut. Charles E. Woodruff, Asst. Surgeon U. S. Army, is relieved from duty at Ft. Mackinac, Mich., and ordered to Ft. Gaston, Cal., for duty. Par. 14, S. O. 86, A. G. O., April 13, 1889.

Lieut.-Col. James C. McKee, leave of absence granted in S. O. 44, A. G. O., February 21, 1889, is extended seven days. Par. 11, S. O. 86, A. G. O., April 13, 1889.

Capt. Adrian S. Polhemus, Asst. Surgeon U. S. Army, is relieved from duty at Ft. Gaston, Cal., and ordered to Ft. Monroe, Va., for duty. Par. 14, S. O. 86, A. G. O., April 13, 1889.

Major Clarence Ewen, Surgeon U. S. Army, promoted Surgeon U. S. Army, with rank of Major, to take effect April 15, 1889.

Capt. Aaron H. Appel, Asst. Surgeon U. S. Army, is granted leave of absence for twenty-one days. Par. 1, S. O. 38, Hdqrs. Div. of the Missouri, April 16, 1889.

Hdqrs. Dept. of Dakota, St. Paul, Minn., April 8, 1889. Special Order No. 35: Under authority from the Secretary of War conveyed by letter of the 16th ult. from Division Headquarters, the post of Ft. Sisseton, Dak., will be discontinued June 1, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 20, 1889.

P. A. Surgeon James C. Byrnes, detached from special duty at Norfolk, Va., and to the "Chicago."

P. A. Surgeon A. C. Heffenger, granted leave of absence for six months, with permission to leave the United States.

P. A. Surgeon Philip Leach, leave of absence extended six months, with permission to remain abroad.

Asst. Surgeon C. H. T. Lowndes, ordered to Naval Academy, Annapolis, Md.

Asst. Surgeon A. M. D. McCormick, detached from the "Vermont" and ordered to the "Chicago."